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PROCEEDINGS

of the

American Association of Museums

Vol. IX

1915

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OF THE
AMERICAN ASSOCIATION OF MUSEUMS .

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1915



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PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

RECORDS OF THE TENTH ANNUAL MEETING
HELD IN SAN FRANCISCO

JULY 6-9, 1915

CHARLESTON, S. C.

1915

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PAUL M. REA, SECRETARY
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CHARLESTON, S. C.

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AMERICAN ASSOCIATION OF MUSEUMS

1915-1916

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PROCEEDINGS
OF THE
Tenth Annual Meeting
OF THE
American Association of Museums
HELD IN SAN FRANCISCO
July 6 - 9, 1915

The eastern members of the Association assembled in Chicago on June 30 and traveled to San Francisco in a special car, thus giving opportunity en route for better acquaintance and for exchange of experiences and ideas. Stops were made at Denver and Salt Lake City, where entertainment was provided by local museums.

Upon arriving in Denver Friday morning, July 2, the party proceeded at once to the Colorado Museum of Natural History, which was inspected under the guidance of Director Figgins and members of his staff. At noon the Association was tendered a luncheon by the Colorado Museum, at which members of the board of trustees were present, and in the afternoon the party was taken in automobiles about the city and vicinity.

Leaving Denver Friday night the party arrived in Salt Lake City Saturday afternoon, where it was received by Dr. Talmage of the Deseret Museum and conducted to the Mormon Tabernacle for a special concert which had been arranged for the benefit of the Association. Following the concert the members were shown other features of the Church grounds and were then taken to the Deseret Museum, where the collections were carefully inspected. This visit was followed by a dinner tendered to the Association by the Mormon Church. President Joseph Smith of the Mormon Church presided at the dinner and extended a very cordial welcome to the members of the Association.

The party left Salt Lake City Saturday evening and arrived in San Francisco Monday morning, July 5, where it was welcomed by Mr. Harry C. Peterson on behalf of the local museums.

SESSION OF TUESDAY, JULY 6

Morning

The Association assembled in the temporary quarters of the California Academy of Sciences for registration. The first session was called to order at ten o'clock by President Oliver C. Farrington. In his opening remarks, the President emphasized the national character of the Association and the importance of personal contact and exchange of ideas among the members from all sections of the country. He stated that the Association was induced to meet in San Francisco not only by the very cordial invitations extended by the institutions of the Pacific Coast, but by the desire to promote closer relations between the museums of the East and of the West.

The roll of attendance was then called by the Secretary and the following is a list of those who participated in the meetings:

ROLL OF ATTENDANCE

- Prof. George H. Barron, Golden Gate Park Memorial Museum, San Francisco, Cal.
- Mr. Lloyd Bemis, Chicago, Ill.
- Miss Edyth M. Berwick, Washington, D. C.
- Mr. William Berwick, Library of Congress, Washington, D. C.
- Dr. Wm. T. Brigham, Bernice P. Bishop Museum, Honolulu, Hawaii.
- Mr. Edward L. Burchard, Civics Extension Committee, Chicago, Ill.
- Mr. Clyde H. Burroughs, Detroit Museum of Art, Detroit, Mich.
- Mr. Newton H. Carpenter, Art Institute of Chicago, Chicago, Ill.
- Mr. Arthur S. Coggeshall, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.
- Miss Ethyl Coggeshall, Pittsburgh, Pa.
- Dr. Robert E. Cowan, San Francisco, Cal.
- Dr. A. R. Crook, Illinois State Museum, Springfield, Ill.
- Mrs. D. W. deVeer, Oakland Public Museum, Oakland, Cal.
- Dr. Roy E. Dickerson, California Academy of Sciences, San Francisco, Cal.
- Prof. Homer R. Dill, Museum of the State University of Iowa, Iowa City, Iowa.
- Mrs. Daniel C. Driscoll, Chicago, Ill.
- Miss Lucy C. Driscoll, Art Institute of Chicago, Chicago, Ill.
- Mr. Robert G. Eberhardt, Mrs. A. B. Spreckels Private Museum, San Francisco, Cal.
- Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.

- Mr. E. W. Gifford, Museum of Anthropology, University of California, San Francisco, Cal.
- Dr. Joseph Grinnell, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
- Mrs. Herman J. Hall, Art Institute of Chicago, Chicago, Ill.
- Prof. Junius Henderson, Museum of the University of Colorado, Boulder, Colo.
- Dr. Walter Hough, United States National Museum, Washington, D. C.
- Mr. Henry R. Howland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
- Mr. C. M. Jackson, Stockton, Cal.
- Mrs. C. M. Jackson, Stockton, Cal.
- Miss Margaret T. Jackson, Minneapolis Institute of Arts, Minneapolis, Minn.
- Miss A. Marie Kelton, Oakland Public Museum, Oakland, Cal.
- Mr. Joseph Martin, Grand Rapids, Mich.
- Mr. S. Owen, Modesto High School, Modesto, Cal.
- Mr. Harry C. Peterson, Leland Stanford Junior Museum, Palo Alto, Cal.
- Miss Theodora Pollok, Piedmont, Cal.
- Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
- Mr. Remi H. Santens, Taxidermic Laboratory, Carnegie Museum, Pittsburgh, Pa.
- Mrs. Remi H. Santens, Pittsburgh, Pa.
- Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
- Mr. George Shrosbree, Milwaukee Public Museum, Milwaukee, Wis.
- Mrs. George Shrosbree, Milwaukee, Wis.
- Miss A. C. Stevens, Field Museum of Natural History, Chicago, Ill.
- Mr. Harry S. Swarth, Museum of History, Science and Art, Los Angeles, Cal.
- Dr. James E. Talmage, Deseret Museum, Salt Lake City, Utah.
- Dr. Walter P. Taylor, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
- Mr. Henry L. Ward, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Prof. T. T. Waterman, Department of Anthropology, University of California Berkeley, Cal.
- Miss Laura L. Weeks, Charleston Museum, Charleston, S. C.
- Miss Louise Wilcomb, Oakland, Cal.
- Miss Geneva I. Willard, Art Institute of Chicago, Chicago, Ill.
- Miss Grace M. Williams, Art Institute of Chicago, Chicago, Ill.

Secretary Paul M. Rea then presented the following report:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year ended May 15, 1915:

The *Proceedings* of the Milwaukee-Chicago meeting were edited and printed during the summer and published October 2, 1914. This is not only the largest but probably the most interesting of the eight volumes now issued. It represents a standard of excellence

which the Association should endeavor to maintain in future, although it may not always be possible to print so large a volume.

Serious loss has been suffered by the death of four active members. Mr. William M. R. French, charter member, ex-president, and one of our most active members, died June 3, 1914. His last illness began just before the closing session of our convention in Chicago, where he was our host, and the news of his death was an unexpected shock to all. Prof. Franklin W. Hooper, director of the Brooklyn Institute of Arts and Sciences and a charter member of the Association, died August 1, 1914. Dr. Charles S. Minot, a charter life member, died November 19, 1914. This meeting is saddened by the death on June 23, of Mr. C. P. Wilcomb, curator of the Oakland Public Museum, charter active member of the Association, and intended host at this meeting.

The Association has lost by resignation three sustaining and seven active members. Three active members have been dropped from the rolls for two years' delinquency in payment of dues.

Six sustaining members and ten new active members have been received during the year ended May 15, 1915, as follows:

NEW MEMBERS

Sustaining Members

- Buffalo Historical Society, Buffalo, N. Y.
- Buffalo Society of Natural Sciences, Buffalo, N. Y.
- Illinois State Museum, Springfield, Ill.
- Minneapolis Institute of Arts, Minneapolis, Minn.
- Newark Museum Association, Newark, N. J.
- Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.

Active Members

- Mr. Clarence J. Albrecht, Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.
- Dr. B. H. Bailey, Curator, Coe College Museum, Cedar Rapids, Iowa.
- Mr. Clyde H. Burroughs, Secretary and Assistant Director, Detroit Museum of Art, Detroit, Mich.
- Miss Anna B. Crocker, Curator, Portland Art Association, Portland, Ore.
- Mr. John A. Doelle, Superintendent of Schools, Houghton, Mich.
- Miss Helen W. Foster, Assistant, Newark Museum Association, Newark, N. J.
- Miss Alice W. Kendall, Assistant, Newark Museum Association, Newark, N. J.
- Mr. Angus Snead Macdonald, Snead and Company Iron Works, Jersey City, N. J.
- Mrs. M. B. Morris, Docent, Central Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Miss Winifred Sexton, Secretary, Fine Arts Institute, Kansas City, Mo.

Members received since May 15 will be counted in the year 1915-1916. Our membership is apparently a little more than holding its own, yet I am sure we all feel that there are still many museums and museum workers who should be associated with us. So to present our work as to attain this result is the immediate problem before us.

One field which has never been adequately developed and the importance of which has been stressed by ex-President Gilman, is to be found among the trustees of museums. To have our trustees familiar with the proceedings of the Association would mean keener and better-informed interest in our museums, while joint participation of trustees and museum workers in our meetings would greatly increase their value. Your Secretary had only to mention this matter at a meeting of the executive committee of his museum to obtain applications for active membership from the four members of the committee present, and steps were taken to bring the desirability of similar action to the attention of the rest of the trustees. No more desirable method of increasing our membership is open to us than by undertaking a campaign for trustee members.

Respectfully submitted,

PAUL M. REA, *Secretary*.

The report of the Secretary was accepted and ordered to be incorporated in the *Proceedings*.

In the absence of the Treasurer, Dr. W. P. Wilson, a summary of his report was presented by the Secretary, who stated that Dr. Wilson had never before failed to attend any of the meetings of the Association since its inception and that he was prevented from being present this year only by poor health. The report of the Treasurer was referred to an auditing committee consisting of Messrs. Carpenter, Ward and Dickerson, which subsequently reported that the accounts of the Treasurer had been examined and found correct.

The report of the Commission for Museum Cooperation was then presented by the Secretary as follows:

REPORT OF THE COMMISSION FOR MUSEUM COOPERATION

An account of the organization, purposes, and plans of the Commission for Museum Cooperation was submitted at the last meeting and was printed in full in Volume VIII of the *Proceedings*. Less prog-

ress can be reported this year than was expected, since the fundamental problem of financing the Commission had been only partially solved when the outbreak of the European war materially changed the financial situation of our own country. Under the conditions obtaining in the fall and winter it seemed inadvisable to undertake any expense for soliciting funds. It also seemed wise to conserve our resources and delay any general effort to execute the more ambitious plans of the Commission.

It has been possible, however, to perform some of the work proposed in the report of the Commission last year. The Secretary has written a second paper on the Educational Work of American Museums, which will appear in the forthcoming report of the United States Commissioner of Education. Through a misunderstanding incident to a change in editors, the first of these papers, published in 1914, was not distributed to the members of the Association as had been planned, but assurance has been received that reprints will be mailed to all members of the Association this year. It may be of interest to note that the report of 1914 was printed in a slightly abridged form in the May issue of the *Museums Journal of Great Britain*.

The Secretary has also prepared, at the request of the American Library Association, a paper on the Relations between Libraries and Museums. This was intended to be one of a series of monographs on library practice, but has not yet been printed.

These papers have been written with a view to giving greater publicity to museum activities and relationships, and thus to contribute to one of the purposes of the Commission for Museum Cooperation.

The Commission has employed a stenographer to carry on its work and to assist in the general work of the Secretary's office, thus making it possible to handle more efficiently the increasing correspondence and to maintain closer relations with museums throughout the country than would be possible otherwise.

With a return of better financial conditions and with active aid from our members the Commission for Museum Cooperation should be put in a position to develop its plans for the betterment of museum relations throughout the country.

Respectfully submitted,

PAUL M. REA, *Executive Officer*.

Concluding his report, the Secretary expressed his conviction that the work for which the Commission was organized is vital to further development of the Association and pregnant with possibilities of service to museums throughout the country, and that it is deserving of hearty support on the part of members of the Association.

In the discussion which ensued, Mr. Edward L. Burchard, secretary of the Civics Extension Committee in Chicago, inquired regarding the possibility of securing cooperation and assistance through the National Museum along lines similar to those by which the Library of Congress cooperates with the various state library commissions. The Secretary replied that while he had as yet seen no opportunity for such cooperation with the National Museum he had been in very close relations with the Bureau of Education, and that this cooperation was proving most helpful.

Dr. William T. Brigham of the Bishop Museum in Honolulu then gave a most interesting account of the work of his institution in the ethnology of the Pacific region. He made the striking statement that 98 per cent of the aboriginal material of the Pacific region is today in museums; that practically nothing of value can be obtained at the present time; and that most of the objects collected after a certain period are counterfeits made for the purpose of selling to tourists. It is extremely difficult for any but experts to distinguish these counterfeits from the originals. The Bishop Museum has in its collection large series of the genuine and of counterfeit articles, and the members of the staff are anxious to assist other institutions in determining material of this character. The museum is also desirous of assembling a complete catalog of all the aboriginal Pacific region material in the museums of the world. Much progress already has been made in the compilation of this catalog and the cooperation of leading institutions throughout the world has been obtained. Dr. Brigham gave many interesting details of his work in all parts of the world in this connection, in the course of which he has been able to correct many errors in the labeling and recording of material of this character.

Dr. Brigham then suggested the desirability of the Association interesting itself in securing some modification of the present postal laws, referring to the heavy burden placed upon museums in distributing their publications owing to the fact that most of these are issued as material comes to hand and are not published at sufficiently frequent or regular intervals to obtain second-class rates. He con-

tinued by pointing out that the Bishop Museum, which unfortunately is situated in the eighth zone, has to pay under the present laws at least 50 per cent more for postage on its publications than it did before the parcel post was established.

The discussion of the parcel post rate on books was continued by the Assistant Secretary, as follows:

Miss Laura L. Weeks (Charleston Museum, Charleston, S. C.).—“From my experience in mailing our last volume of *Proceedings* I can sympathize with Dr. Brigham. These books have usually weighed a little less than one pound and have gone for six and seven cents apiece by the old book rate. Under the new law I had to arrange our entire membership according to the parcel post zones and pay postage ranging from 8 cents for the third zone to 24 cents for the eighth zone. The majority of our members (205) are in the fifth zone which requires 14 cents postage. In the third zone we have but one member and in the eighth zone eighteen.

“The total cost of mailing this edition under the old mail rate would have been \$27; under the parcel post rate \$42.06. By using the express prepaid book rate of 15 cents for the sixth, seventh, and eighth zones, and parcel post for the nearer zones we reduced the cost of mailing to \$40.16. Approximately two-thirds of our last edition, mailed to the fifth zone, cost more than the whole edition to all parts of the country would have cost under the old rate. This meant not only an increase in cost but also a large increase in labor as compared with the simple method of weighing one copy and putting the same postage on all the others. Yet cheapness and convenience are supposed to be the chief merits of the parcel post system!

“I think that if, as an Association, we can do anything to promote a more equitable and convenient adjustment of these rates it will be well worth our time and effort for the benefit not merely of the Association but of museums throughout the country as well.”

Dr. Brigham then called attention to the fact that it is possible to send from Honolulu to London at the old book rate but that it is impossible to send to San Francisco at this rate since the parcel post law has been applied to books. Prof. Junius Henderson, curator of the Museum of the University of Colorado, endorsed the remarks of the preceding speakers and emphasized especially the fact that the expense of mailing publications is much greater now than before the parcel post law was applied to books.

Professor Henderson continued, bringing to the attention of the Association the very severe restrictions pertaining to the use of alcohol released from bond for scientific use and pointing out that many of the purposes for which this alcohol is necessarily used in all our laboratories are contrary to a strict interpretation of the law. He expressed the opinion that there must undoubtedly be many other legal problems concerning the affairs of the Association on which action might be taken to advantage by the Association as a body.

Dr. Brigham explained the peculiar situation of the Bishop Museum with regard to obtaining alcohol. The Act of Congress which prohibits anyone from holding title to more than 1000 acres of land in Hawaii prevents the incorporation of the Bishop Museum since the institution owns about one-third of the Hawaiian Islands. The internal revenue laws allow scientific institutions to withdraw alcohol free of tax only when they are incorporated. The museum therefore finds it necessary to obtain its alcohol from Germany at the regular price.

Miss Margaret T. Jackson of the Minneapolis Institute of Arts described the hardship which the present interpretation of the Cummings Act works upon art museums. As at present interpreted, this law requires every shipper to state the exact valuation of the shipment and insurance must be for the full amount of the valuation. This makes the cost of loan exhibitions almost prohibitive for small museums.

The Chair suggested that the several matters of a legislative character brought up in the above discussion called for too much work for them all to be referred to the Commission and that it might be well to appoint a special committee to handle these matters. At a subsequent session it was voted that such a committee on legislation be appointed and the Chair designated Dr. W. P. Wilson, Prof. Junius Henderson, and Mr. E. L. Burchard to serve on this committee.

The report of the Commission for Museum Cooperation was then approved.

No report was submitted from the committee on art membership and after some discussion the committee was discharged.

No report was submitted by the committee on museum pensions and in the belief that nothing further can be accomplished by this committee at the present time the committee was discharged.

It was voted that a committee to assist in developing the art side of the Association be appointed and the chair subsequently designated

Mr. N. H. Carpenter, Mr. H. W. Kent, and Miss Margaret T. Jackson to serve on this committee.

The Secretary read an invitation to the Association to name a delegate and alternate to represent the Association at the Second Pan-American Congress to be held in Washington in December, 1915. The Council recommended that the Association empower the President to appoint such delegate and alternate and that if possible a place be secured on the program for the presentation of a paper on some phase of the educational work of American museums. The Association so voted and the President appointed Secretary Rea and Dr. J. E. Talmage as delegate and alternate respectively.

It was called to the attention of the Association that the meeting of the Museums Association of Great Britain was being held in London simultaneously with the San Francisco meeting of the American Association of Museums. The Association voted that a cablegram be prepared by the President and Secretary to extend greetings to the Museums Association of Great Britain.

There being no further business, a paper descriptive of the new building of the California Academy of Sciences, by Dr. Barton W. Evermann, director of the Museum of the Academy, was read in the absence of the author by Dr. Roy E. Dickerson.

In the discussion following Dr. Evermann's paper Mr. Edward L. Burchard of the Civics Extension Committee in Chicago inquired what funds the Academy has for traveling exhibit work. Dr. Dickerson replied that this work is in its infancy and that the present tentative plan provides first for cooperation with the San Francisco schools and subsequently for an extension throughout the state. The work is intended to follow lines similar to the Harris Public School Extension of the Field Museum, although it is improbable that it can be undertaken on so extensive a scale. It is hoped, however, that habitat groups of small animals can be provided. Mr. Burchard inquired whether the extension of the educational work to schools throughout the state would be accomplished in cooperation with the city or county authorities, referring to the plan of the State Library of California which has been very generally commended and which reaches the entire state through the agency of the city and county libraries. Dr. Dickerson replied that plans had not been matured as yet and that only general arrangements had been discussed with the board of education in San Francisco.

Mr. E. W. Gifford of the Museum of Anthropology of the Univer-

sity of California stated that the university had been interested for some time in the matter of traveling exhibits for schools. He also reported that there had been a considerable attendance of classes of school children at the museum in the Affiliated Colleges, but that an unfortunate conflict had been noticed between traveling exhibits and class attendance at the museum. Traveling exhibits have been found most successful outside of the city, and in the city dependence has been placed chiefly upon encouraging the attendance of classes for lectures and special demonstrations.

Miss Theodora Pollok, formerly of the Newark Museum Association, then presented the following account of plans in which she is interested for the state-wide use for educational purposes of a part of the material now contained in the Panama-Pacific International Exposition:

A STATE TRAVELING MUSEUM

To the members of this Association it will be no surprise to learn that the Exposition in San Francisco has stirred the imaginations of many Californians to the forming of a museum from exhibits to be gathered from the fair. To the museum-making mind the surprising thing would be not to do this, for mere acquisitiveness should insure some sort of a museum from so rich a source. Indeed our real problem should be to decide not whether we should have a museum, but what form of museum the trend of the times points to, and to discern how that could be adapted to the particular character and needs of our own people and what is the ablest and most practicable machinery for accomplishing our ends.

Particularly have we been fired by a desire to find the secret of and, as far as possible, to perpetuate that holiday curiosity and childlike joy in learning by looking which is one of the charms of the crowds at the fair, as well as one of the first necessities in making a fact or a principle 'stick' in the mind.

I suppose that a museum state-wide in scope would suggest itself in any one of the 'progressive' western states, where the establishment of new state bodies is less hampered by precedent than in longer-settled sections of the country, in spite of the fact that more educational work is done by the exhibit in the East than on the Pacific coast. But the idea of having such exhibits travel about the state—usually in small, one-subject exhibits, in all probability—is almost inevitable today, especially perhaps in California.

In the first place, the state is large and its cities comparatively small and widely separated, so that, housed in any one city, such collections would have only a minimum usefulness. An intensive cultivation of the soil, on the other hand, gives a community life in the country districts which demands intellectual food, as the large attendance of farmers' children at our universities attests.

Of first importance, too, is the fact that California's position in relation to the Panama Canal now makes it an avenue of entry for the immigrant, to whom and to whose children a wise statesmanship in the West, warned by conditions in our eastern states, would give every possible educational opportunity which may help these foreign newcomers to understand their new surroundings and to take their places among our own people. And the simplest of these means of education is by way of the universal language of the eye—exhibit, lantern slide, and moving picture.

In other words, here in California a state museum should go to the people, not wait for the people to go to it. Indeed, in crossing the continent recently and stopping at various places on the way to study what was being done in this matter, I was impressed with the ubiquitousness of traveling exhibits. Museums, scientific and artistic societies, university extension departments, government bureaus, manufacturing interests, and humanitarian organizations are sending them out; schools and clubs, cities and counties, and civic organizations are calling for them. They are so obviously here to stay and to increase, that in the very near future they must receive the serious attention of the museum worker.

The real question, indeed, is not: Shall our people have portable exhibits? but—How can the most people get the best exhibits at the least expense? And upon this follows a host of other questions: Shall the state, in its educational function, undertake this work, either sending out its own exhibits or establishing a circuit for other institutions' exhibits, or both? Can this be done best by the schools, the university extension, the state library under its traveling library system, or should there be established a state museum functioning somewhat as does the state library? Shall such portable exhibits merely apply to the school studies, or shall they be designed also for the more general education of both old and young and therefore include subjects of civic and welfare interest? Would they not then play an important part in the use of the school as a civic center, both in city and country life? These questions, while local to California

in the present instance, will shortly call for consideration the country over, if we are to avoid the twin wastefulnesses of omission and duplication.

In trying to clarify some of these matters in my own mind, for the California situation calls for an exhibit plan which has been consciously and deliberately formed and which has not merely 'grown', three different state organizations, sending out exhibits over a state-wide field, have stood to me not merely for what *is* in these several states, but for interests, demands, and tendencies common to all states.

First, the Philadelphia Commercial Museum, which as a state institution, supplies exhibits, slides, and moving pictures, with accompanying lectures, to schools in Pennsylvania, adhering to the school curriculum in a general way, while greatly amplifying it.

Second, the extension division of the University of Wisconsin, which now circulates slides and moving pictures to schools, societies, clubs, and other organizations, and, declaring that "No more useful means of presenting ideas has been invented than the exhibit," plans "to offer ultimately to communities an exhibit of each of the various welfare topics to which the exhibit method of presentation is adapted." Its first exhibit, for instance, was the Child Welfare Exhibit of the American Association for the Prevention of Infant Mortality, and if our observation of San Francisco's Exposition revealed nothing else it would show how large a place subjects of social, civic, and educational interest hold in the public mind and how illuminatingly they can be taught through the exhibit.

Third, in still another mid-western state, Minnesota, a State Art Commission maintains an exhibit of paintings, sculpture, and handicrafts at the State Fair; sends this exhibit in whole or in part to different cities in the state; keeps constantly on the move two exhibits, one of industrial and the other of school art work; sends exhibits to farmers' clubs; circulates a prize design for a model Minnesota farm house, whose working plans it sells at a nominal price; and fosters, even to the extent of acting as permanent exhibitor and sales agent, infant artistic industries in the state.

Here then, in reality we have three types of traveling museum, active in three different states: (1) a school museum of geography, natural science, commerce and industry; (2) a museum of applied science; and (3) a museum of fine and applied art—types of museums already established in stationary form but breaking new ground in the field of established traveling exhibits, state-wide in reach.

If we further include within this field of exhibits the popular scientific work in botany, mineralogy, etc., of so many museums, and industrial work such as the wireless telegraphy at the Brooklyn Children's Museum, and the exhibit of the state's clay, its uses and handling, given by the Newark (N. J.) Museum last winter, we have covered in visual teaching form a large part of the field of popular thinking today. And all of them are needful as presenting at least the raw materials, the unflinching acceptance of facts, and the habit of analytic observation, out of which the human creature must weave his adjustment to the complexities of modern life if he is to escape mutilation or dwarfing at its hands.

If the problem of organizing by the state such exhibit activities as are suggested above, in order that they may go out democratically to the people, seems staggering, it yet requires no gift of prophecy to see that sheer efficiency (such, for instance, as characterizes the economics of big business) will soon make necessary at least a very close cooperation of organizations to manage the exhibit work demanded by the times.

Certain limitations of the field to be covered by any such state organization or organizations are plain to be seen. Such state exhibits, for instance, would not be designed to appeal to specialists, but, while exact, would be simple and popular in character. Individual school exhibits, too, like those of St. Louis, applying to a definite lesson scheduled for a very definite time, are also, I believe, a different problem, coming under another category, and requiring a smaller unit than a whole state for their organization.

A state's traveling exhibits, then, would be designed to illustrate the school subjects in a more general way or according to large underlying principles, to keep alert in children the questioning, observing eye, to relate the studies of the schoolroom to life itself, to interpret with sympathy and dignity the lives of men and women wherever they live and the work of their hands and heads, and to help the boy and girl to find their places in the world. Further, such state exhibits (if extended in scope to cover the needs of university extension and community social center) should help to solve the community's problems and to increase its people's vigor, enjoyment, and intelligence.

Fortunately for us in California, as you will admit, many of the questions of organization, at least, can wait—must wait, indeed—until the convening of our legislature in 1917. We are faced by the urgent fact, however, that we must collect the material for such state

exhibits as we desire from the Exposition before its close in December of this present year, or lose such an opportunity as we shall sigh for in vain in that inevitable future which will call for such forms of education for the masses of the people.

For practically all the popular types of exhibits the Exposition provides a wealth of material, vast quantities of which would doubtless be cordially given for the state's use if sought in time, and that without unhappy conflict with other museums in the state seeking specific exhibits. On the other hand, the request of the state would doubtless be influential in getting many exhibits not otherwise obtainable but gladly given if promised a use. Keen as is the desire among a group of interested people to get this material, methods by which we can act in the matter are not clear, our local museum workers are few, and an understanding of the educational uses of museums is not developed in the state. You can imagine, then, with what interest and what thanks we would greet any suggestions and advice from such a body of experts as make up the American Association of Museums as to the most practicable aims, forms of organization, and modes of work in such a system of state exhibits.

As to the collection of material, we have already had suggestions from two men prominent in museum life in America. One of them warned: "Select, select. Don't let things be dumped upon you." The other exhorted: "Get everything you can lay your hands on "

President Farrington.—"Any discussion or suggestions?"

Mr. Henry L. Ward (Milwaukee Public Museum).—"The plan that has been outlined is, as far as I know, unique. It is a broadening and enlargement of what is done successfully in a smaller way by various museums. It is outside the province of our museums as ordinarily conceived to do this sort of thing, but it seems to me there is no reason at all why it cannot be done upon a different foundation from that on which the museums work. I feel that there is no question but that this is an excellent idea, and I hope this Association may be able, through its influence and advice, to help carry it out."

Secretary Rea.—"I would move you that Miss Pollok's plan be referred to the Council for further consideration in the hope that we may be able to assist in the development of her plans."

President Farrington.—"It is moved and seconded that Miss Pol-

lok's plan be referred to the Council for further consideration and report to the Association. Are there any remarks?"

Prof. Junius Henderson (University of Colorado Museum).—"I might suggest a little addition to Miss Pollok's plan. Many museums have material of certain kinds in such quantities that they could easily afford to send it out to the various parts of their states as permanent exhibits. For instance, local fossils are quite different from bird and mammal collections, in that it does not take much time or experience to prepare them for exhibition. As an illustration, the state geological survey in Colorado is practically a department of the state university, because its collections are deposited at the university and the professor of geology in the university is also the state geologist. He has gotten together large quantities of material in ordinary survey work, and without much expense has sent out sets of all the common minerals and all the common rocks of the state, properly labeled, to any high school that would agree to prepare permanent display cabinets for them and to maintain them in good condition. The university museum has done the same thing to some extent by furnishing collections of common mollusks of the United States. Wherever we have large quantities, instead of sending them as traveling exhibits, we send them to schools for permanent use. We have also sent them to libraries or to any institutions that really want them and are willing to take care of them. The dividing line between traveling exhibits and permanent exhibits would be the question of expense. It would be cheaper to send a permanent display of some kinds of material than to send the same display every three or four years. It would be simply a question which way it can be done to best advantage."

Secretary Rea.—"I think it not merely a question of economy; it is a question of psychology. There is a marked difference between the exhibit which goes into the school and stays in the corner for five years and the exhibit which comes by express and is taken away again in a day, or a week, or a month. Teachers change frequently. The new teacher finds a cabinet in the corner with a little dust on it and may never bother to open it, although her predecessor may have used it regularly. Later, another teacher may pick it up and use it, but you never know whether your material is working until you send an inspector around. The arrival of the exhibit in response to request is undoubtedly a big stimulus to both teachers and pupils. The very fact that the exhibit can be used only a short time

and must be sent back makes its coming an event. While it is away, they are planning for another.

"The practice of museums has varied in this matter. Dr. Wilson has been establishing permanent museums in schools in Pennsylvania and has certainly done a very fine work, but his reason for making permanent exhibits I never have been able to understand. He says the first traveling exhibit he sent out was so highly regarded that he could not get it away from the school. It seems to me I should have taken it away just to keep up the excitement which it caused. I believe that the traveling exhibit produces a better psychological effect."

Mr. Ward.—"I thoroughly agree with what Mr. Rea says. I think the history of these exhibits bears out his point all along the line. It was the experience of the American Museum of Natural History that where the collections were given to the schools their very existence was unknown in a few years. I found the same true in Milwaukee. Specimens which had been loaned were not known to be in existence in the schools until our records proved that they must be there. Then they were found and returned to the museum."

Mr. Edward L. Burchard (Civics Extension Committee, Chicago).—"I have been working from the school end of this subject for a number of years in Chicago. I am satisfied that it is highly important that the children themselves prepare some of the local exhibit material in conjunction with the traveling or rotary exhibits."

Mr. Henry R. Howland (Buffalo Society of Natural Sciences).—"I heartily agree with Mr. Rea that traveling exhibits should be very active in their movements. It is well known to most of us here, except perhaps to some of our friends on the Pacific Coast, that the Buffalo system of handling assignments of exhibits is unique in one respect. I think it is the only institution of its kind in which the educational work is directly correlated with the educational work of a great city. Instead of tentatively offering something to the pupils, the museum work for many years has been made a part of the public school system of the city. We are proposing to furnish, if the pupils are sent to us systematically, all the necessary apparatus and materials and a proper instructor.

"At the beginning of every term, the superintendent of public instruction sends out to each school principal a schedule stating when each of his grades is to come to us, and so every morning and every afternoon of the school year our lecture rooms or classrooms

are filled with these public school children to the extent of about 30,000 every year.

"In addition to this we send out traveling exhibits to all the schools. These exhibits are directly related to their work. For instance, in the schedules prepared for the schools each year, the board of regents names twelve birds that are to form the particular subject of study for the year. To meet that requirement we provide fifteen sets of those twelve birds, and they are circulated systematically so that each school has a set for a certain time. The next year twelve other birds are named and exhibits are prepared in the same way. The former ones also circulate, so we have a very large series of these traveling exhibits in constant use. All of this is supplemental to the regular work in our own building."

Mr. Herbert E. Sargent of the Kent Scientific Museum in Grand Rapids reported that his museum has exhibits, especially of birds, available for school use upon request and that during the past year the cooperation of the school board had been obtained in providing an automobile to circulate them among the schools on a definite schedule. It is expected that this work will be extended next year. Mr. Sargent found that the use of exhibits in the schools stimulated the attendance of classes at the museum.

The discussion of the motion to refer Miss Pollok's plan to the Council was closed at this point and the motion was passed.

The Association then adjourned and proceeded to Golden Gate Park, where it was tendered a luncheon by the San Francisco Park Commissioners.

SESSION OF TUESDAY, JULY 6

Afternoon

The meeting was called to order by President Farrington at 2.30 p.m. at the Museum of Anthropology of the University of California.

President Farrington.—"Mention was made this morning of the great loss sustained by the Association in the death of Mr. French, director of the Art Institute of Chicago. It seems desirable in view of his special interest in the Association, and of the fact that he was a former president and always a prominent member, that we should have some more extended account of him. Mr. Newton H. Carpenter of the Art Institute of Chicago was for many years associated with him and will give us an account of Mr. French's life."

Mr. Newton H. Carpenter (Art Institute of Chicago).—“Mr. William Merchant Richardson French was born in Exeter, N. H., October 1, 1843. He was of an old and prominent New England family, including among its members Daniel Webster and John Greenleaf Whittier. He lived for many years in Concord, Mass., surrounded by many distinguished people, among whom were Noah Webster, Louisa May Alcott, Henry David Thoreau, and Ralph Waldo Emerson.

“Reared in such unusual surroundings, he was inspired in his impressionable years with a desire for education. After graduating from Phillips Exeter Academy in November, 1860, he entered Harvard University. Upon the completion of the third year of the course he responded to the prompting of duty and enlisted for service in the great Civil War. Unfortunately, or fortunately, he did not see active service as he was among the last to volunteer. The strength of the old Puritan feeling which caused his enlistment, to fight for the principle of freedom, remained with him throughout life. It showed itself a year or more ago when a difficulty arose concerning a negro boy studying in the school of the Art Institute. Because of racial prejudice there was a cry upon the part of some of the students to have the boy expelled. There was nothing culpable that could be attributed to him, and when I asked Mr. French his attitude he said emphatically: ‘I went to war for the purpose of freeing negroes, and I am not going to change my attitude now. An honorable negro student must have the same privileges in our school as a white student.’ The integrity and uprightness of the Puritan, born and bred in him, remained with him always. Nothing could induce him under any circumstances to act unjustly. His whole life was filled with the desire to benefit humanity and the community in which he lived.

“After completing his college course in 1867, he came to Chicago and studied art for a short time in the old Academy of Design, out of which developed the Art Institute. He had pursued in college the studies of engineering and landscape gardening, and in his early years in Chicago he practised landscape gardening, laying out a number of the surrounding towns.

“In 1878 Mr. French became interested in the Academy of Design and in a great measure was responsible for its reorganization. He was elected its secretary in 1878, and on May 29, 1879, was made secretary when the present Art Institute was organized. Later his

title was changed to that of director, and in this office he served the Art Institute until his death.

"If anyone were to ask a reason for the success of the Art Institute, I should say that much may be attributed to the fact that we have had a continuous administration of trustees and officers from the beginning, all working for the same ideals. In addition to performing all the functions of director of the institute, Mr. French did a great deal of lecturing upon art topics. This was a great stimulus in increasing the appreciation of art, not only in and around Chicago, but throughout the entire country. Our success in Chicago has also been due in a great measure to his indefatigable efforts. Nothing seemed to tire him, and nothing retarded his incessant, faithful work. He was at his desk early in the morning and worked until late at night. Mr. French is survived by his wife and two sons.

"The last duty he performed was to attend the annual meeting of the American Association of Museums in Milwaukee. We were very busy in Chicago at that time and it was difficult for him to leave. I was rather surprised that he decided to go to Milwaukee, as the meetings of the American Federation of Arts were about to convene here, and it was the time of the closing of our school year when the work was very heavy. Nevertheless, he said: 'I am going to Milwaukee for one reason. There is a feeling that the art museums throughout the country are not in sympathy with the American Association of Museums and I should like to do what I can to help bring about a closer relation between the art museums and the museums of natural history.' The day he returned the American Federation of Arts had its first meeting in the Art Institute. At luncheon that day Mr. French was taken ill, and passed away in less than two weeks. His death, on June 3, 1914, resulted from a serious internal growth, which was operated upon without success.

"I feel that in his death the Association has lost a faithful, generous, and noble member, and that the Art Institute has lost its best servant. One thought, however, is comforting; that during the seventy-one years of his life his work was above criticism. He passed away after a useful and successful career. Many men do not live out half their days. Mr. French's work will live after him, and his friends will remember him always as a Christian gentleman. They are already showing their appreciation by establishing a scholarship in the school of the Art Institute as a memorial to him, and by planning a gallery which will bear his name."

The following paper by Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, was read in the absence of the author by the Assistant Secretary:

DR. GOODE'S THESIS AND ITS ANTITHESIS

In October, 1899, a communication to the *Boston Evening Transcript* called for more labels and other means of instruction at the Museum of Fine Arts in that city, quoting from the familiar paradox maintained by Dr. George Brown Goode, former assistant secretary of the Smithsonian Institution:¹

An efficient educational museum may be described as a collection of instructive labels each illustrated by a well-selected specimen.

To this communication I replied, welcoming the demand for more exegesis in our galleries, but denying the applicability of Dr. Goode's thesis to museums of fine art in another paradox:

A museum of fine art does not exist for purposes of instruction at all but solely for purposes of enjoyment.

Its exact and trenchant terms made this new formula a hard saying. To be sure, my next sentence paraphrased the words "does not exist for purposes of instruction at all" by excluding instruction in an art museum only if held paramount to the enjoyment of its contents, and expressly admitting instruction if subordinated to that enjoyment. Nevertheless, I was misunderstood to mean that a museum of fine art had no business whatever to afford instruction, and a number of writers forthwith roundly condemned the utterance in the same newspaper and others. A second letter, explaining what we mean by the phrase "exists for" or "*raison d'être*,"—a notion which I had supposed would be familiar to all likely to read the first letter—sufficed to put an abrupt end to the discussion.

An explanation of terms in advance would have made the doctrine more acceptable.

*That for which anything exists, or its *raison d'être*, is its primary intention.*

¹ Dr. G. Brown Goode: "Museum History and Museums of History," a paper read before the American Historical Association in Washington, D. C., December 26-28, 1888; reprinted in the Report of the Smithsonian Institution for 1897, Part II.

A *primary intention* is not an exclusive intention, but that one among a number which is given precedence over the others in any conflict on equal terms.

Education being formation, bodily or mental, the primary intention of educational exhibits is that prospective benefit in which the formative purpose reaches fulfilment.

Fine art being creation (*ποίησις*) material or immaterial, the primary intention of artistic exhibits is that immediate gratification which is the fruition of the creative purpose.

On this understanding of terms, Dr. Goode's thesis and my own antithesis may each be given its appropriate counter-statement.

Thesis. An efficient educational museum may be described as a collection of instructive labels each illustrated by a well-selected specimen.

Antithesis. An efficient museum of art may be described as a collection of enjoyable objects each interpreted by a well-devised commentary.

Again:

Thesis. An educational museum does not exist for purposes of enjoyment at all, but solely for purposes of instruction.

Antithesis. A museum of art does not exist for purposes of instruction at all, but solely for purposes of enjoyment.

These counter-statements precisely describe the primary intentions, or *raisons d'être*, of the two types of institution respectively. That of the one is instruction, that of the other enjoyment, two wholly disparate things. What this means is that an educational museum is willing to sacrifice enjoyment of its exhibits to the instruction they can furnish, if equally considerable; and a museum of art is willing to sacrifice instruction from its exhibits to the enjoyment they can furnish, if equally considerable. Of the two, the artistic definition is the older. In 1883, five years before Dr. Goode advanced his educational thesis, the trustees of the Museum of Fine Arts in Boston had formulated a view of its purposes with which my later antithesis fully agreed.

We must assume that the museum is to be what its name expresses—a museum of the fine arts; that its primary intention is to collect and exhibit the best obtainable works of genius and skill; that the application of the fine arts to industry, and the illustration of the fine arts by archaeology are both within its province, but that neither of these is its first object.

Reference to these words of duly constituted authority would have effectually disposed of the claim that the Boston collection was an educational museum, founded for the illustration of labels. As it was, the discussion of museum purposes aroused by a new and generalized statement of the declared policy of one institution ripened a few years later into a widespread controversy over what came to be known as the aesthetic and didactic (or scientific) theories of art museum management.

Careful and acute arguments in defence of the aesthetic theory were not lacking in the wider discussion; notably in articles in the *Atlantic Monthly* and the *New York Nation* by Professor Mather.² On the part of museum authorities the misapprehension of the early Boston critics was renewed. In an important official document the aesthetic theory was represented as implying the entire neglect of educational considerations, and a middle course was proposed which consisted in recognizing both and leaving untouched the question of precedence on which the debate had hinged. The controversy was followed with interest in England, where the *Burlington Magazine* accorded to Boston the honor of having first undertaken a serious inquiry into museum purposes.³ In writing from America to the same journal, Professor Mather accurately defined the issue as the question whether the museum of art "should be primarily educational in intent" or whether in its conduct "aesthetic should have preference over scholastic considerations."⁴ An editorial article in the *Burlington* noted the influence of the aesthetic theory upon museum arrangement, and drew the conclusion that "to something of this nature it seems likely that the larger world-museums must approximate when they begin to be fully conscious of their purpose and function in the modern world."⁵ This forecast has been verified in the recent report of Earl Curzon's Committee on National Gallery arrangement, which advocates the subordinate installation of pictures of minor artistic value in a manner to be accessible to students and available for loan or temporary exhibition.⁶

² F. J. Mather, Jr.: "An Art Museum for the People," *Atlantic Monthly*, December, 1907; "A Selective Art Museum," *The Nation*, vol. 82, p. 422.

³ *Burlington Magazine*, September, 1908, p. 319.

⁴ *Idem*, April, 1906, p. 62.

⁵ *Idem*, September, 1908, p. 322.

⁶ *Idem*, May 15, 1915, p. 82.

The acceptance of the aesthetic theory may at present be assumed complete. It is not to be expected that any museum restricted to works of fine art will hereafter elect to regard and treat itself as at bottom an educational institution. But the representatives of the ascendant principle may be pardoned for feeling less relief and satisfaction over the outcome than wonderment why in the world such a to-do was made about the matter. A visitor from another planet, asked whether an institution dedicated to art ought to be managed primarily in the interests of science, would suspect the questioner of chaffing him. Yet matters are not so regulated among the adherents to Mother Earth. At the height of the Boston discussion an obituary press notice of Prince Troubetskoy, Rector of the University of Moscow, contained the news that he had "risked all his popularity by a speech made at a recent meeting of the students of the University in which he said that study should be the primary purpose of the University and that political or other agitation should be only a secondary aim." The worries occasioned by the opposition between a political ideal of university purposes and the scholastic ideal he upheld were said to have had much to do with the death of the Prince. Alas, there were also tragedies to mark the simultaneous opposition in America between the scholastic and artistic ideals of art museum purposes.

Two words in Dr. Goode's formula should warn us against the grievous injustice of condemning as a Philistine a writer so active-minded, acute, and liberal. His thesis is expressly restricted to 'educational' museums whose contents are 'specimens.' Looking further through his exposition, we come upon many plain indications that he grasped, if he did not consistently pursue, the idea of museums non-educational in type, to whose contents the term 'specimen' might not apply. He writes of "fine art collections, best to be arranged from an aesthetic standpoint, by artists;"⁷ and again, of collections of artistic masterpieces as 'shrines' and 'heirlooms';⁸ and again of "many so-called museums" as in reality "permanent exhibitions."⁹ Nor did he offer even his latest ideas on museum ad-

⁷ "Museum History and Museums of History." Report of the Smithsonian Institution for 1897, Part II, p. 76.

⁸ "The Museums of the Future," Report of the Smithsonian Institution, 1897, p. 252.

⁹ "The Principles of Museum Administration," Report of the Smithsonian Institution, 1897, p. 198.

ministration as finished results, but expressly as material for critical discussion. Yet the criticism he hoped for has hardly taken place. On the contrary, one telling sentence of his has been, as it were, preserved in alcohol, as a final word on the whole subject.

What is a 'specimen?' Has the idea any opposite?

We call an object a specimen when we think of certain qualities in which it resembles other things. We call it on the other hand a unicum when we think of qualities in which it differs from any other thing. Now, nothing is absolutely unlike anything else; even a hawk and a handsaw are alike in having teeth. Nor is anything absolutely like anything else; even two peas differ in their place in the pod. Hence anything we please is always both a specimen and a unicum. It is more or less like other things, and hence a specimen; and it is always also just itself and nothing else, and hence a unicum. But although every object is at once specimen and unicum, it may be that we value it in either way more than we value it in the other; and this is the practical significance of the two words, specimen and unicum. A specimen is a thing we talk of and treat with reference to its resemblances to other things. Its value, as we say, is illustrative, residing in its abstract bearings. A unicum is a thing we talk of and treat with reference to its differences from any other thing. Its value as we say, is individual, residing in its concrete self. This is the kind of regard we feel for individuals *par excellence*, or persons. The feeling of Americans for Lincoln is not admiration for a group of qualities—for patience, acuteness, strength of purpose, kindliness, homely wit—but for these and countless other traits as they are embodied in the individual life we recall under that name. When Olivia cataloged her charms—"item, two lips, indifferent red, item, two grey eyes with lids to them, item, one neck, one chin, and so forth"—she had already divined that the Duke cared for her, not as the one woman in the world for him, but as a specimen of womanhood. Contrariwise, the passion that impels the artist is not a passion for abstract qualities but for a concrete object, limitless source of abstractions, as it grows under his hand. There is but one Venus of Melos, but one Lycidas. There is but one Moonlight Sonata of Beethoven, and but one Three Trees of Rembrandt, many as are the renditions of the one and impressions of the other. Thus we speak quite naturally of the friendship of fine art. The feeling which the artist's other half—the true beholder of his work—feels for his creation is in turn unique, like the regard we entertain toward a human being.

When therefore we apply Dr. Goode's formula to collections of fine art we find it talking nonsense, just as a formula of mathematics talks nonsense when applied to facts it does not fit. For a collection of works of art is not a collection of specimens, but a collection of their opposites, namely, unica. More precisely, our primary purpose in showing things concrete in aim is itself concrete and not abstract. In speaking of museums of art Dr. Goode's thesis must be dropped and an antithesis substituted. Their essential nature is not that of collections of abstractions illuminated for us by examples, but that of collections of concrete things introduced to us by ideas. This is the antithesis which is needed and which had been recognized from the beginning at the museum where the controversy started.

The distinction admits of many forms of statement. Museums of science aim first at abstract knowledge, museums of art at concrete satisfaction. A museum of science is a place of pleasant thought; a museum of art a place of thoughtful pleasure. A scientific museum is devoted to observations, an art museum to valuations. A collection of science is gathered primarily in the interest of the real; a collection of art primarily in the interest of the ideal. The former is a panorama of fact, the latter a paradise of fancy. In the former we learn, in the latter we admire. A museum of science is in essence a school; a museum of art in essence a temple. Minerva presides over the one, sacred to the reason; Apollo over the other, sacred to the imagination.

Thesis and antithesis follow deductively. An object of science being specimen, and an object of art unicum, in a museum of science the accompanying information is more important than the objects; in a museum of art, less. For while both are collections exemplifying human creative power, in the museum of science the creation is the general law *represented* by the description; in the art museum, it is the particular fact *presented* by the object. Thus, as Dr. Goode well said, in a museum of science, the object exists for the description; but as he was not yet ready to say, in a museum of art the relation is reversed—the description exists for the object. A museum of science is in truth a collection of labels *plus* illustrations; but a museum of art a collection of objects *plus* interpretations.

Dr. William T. Brigham (Bernice P. Bishop Museum, Honolulu).—
“It seems to me that there should always be art in a scientific museum,

even if science is left out of the art museum. The impression given by some of our museums is that of a jail. There are steel cases; there is not a particle of molding about the room; there is not a bit of color; it is all concrete or plaster; I feel chilled as soon as I enter.

"In the Bishop Museum we have taken great pains to make the pleasure of the visitor begin the moment he comes in. When the Hawaiian Hall was built I had the favorite vine of the Hawaiians, the maile, cast in the columns, while the capitals were decorated with the candlenuts that have been so useful to the natives through all ages. The cases were made of the most beautiful wood that grew on the Island, the koa wood, with a texture of such variety that you can see in the panels wonderful little landscapes, shore scenes, and sunsets. Some of them change as you pass by them like a changeable satin. The room is so open that five hundred people do not crowd it in the least. The seats are comfortable and abundant.

"We believe the arrangement of the contents of our cases is as important as the arrangement of a shop window. When a store pays a man \$20,000 a year to dress the windows it gets its money back. A formal row of stone pounders does not produce an agreeable effect, but if they are arranged in proper relation to light and shade the visitor is attracted, even if he does not care what a stone pounder is, and learns something about them from the labels.

"One of the groups shows a native making poi. The man from whom the cast of this figure was made was shot about two years later and the group is so impressive that when the man's widow came in she said, 'Solomon looks so natural, I wish you would let me kiss him!' I said, 'Madam, you are married again, and it would not be right to your present husband, but you may kiss him through the glass.' She showed her affection by a grease spot almost as large as a pancake.

"I think our beautiful wooden cases have the same effect as the frame of a picture. They are necessary to bring out the full beauty of the exhibits. Our visitors include some 15,000 Japanese, Chinese, and Portuguese every year. Many of these people have lived in grass huts all their lives. When they visit a beautiful building like our museum they go back with a desire to make their own houses look as well as possible and to keep them clean. The museum has been a means of making them a different people and those that come in now are very different from what they used to be. When the museum was first opened the visitors stole the labels from the

exhibits and carried away everything they could get their hands on, just to show that they had been to the museum. Their attitude has now changed entirely however, and we have no policemen and we need none."

Dr. James E. Talmage (Deseret Museum, Salt Lake City).—"I do not remember attending any session of the American Association of Museums in which the difference between art museums and scientific museums has not been mentioned and sometimes been the subject of debate. I agree with Dr. Brigham that there cannot be any fundamental distinction such as we have tried artificially to make between these two classes of institutions. The generalization that has been brought forth in Mr. Gilman's paper, and to which I had the pleasure of listening when it was made by him in person, that scientific museums are designed primarily to instruct, and art museums primarily to please, is a real and a useful one if we do not carry it too far, but I believe that the proper kind of pleasing is educative. Therefore, anything that gives to man that kind of pleasure, that lifts his soul to the contemplation of the higher things, is as truly educative as the fossil or the mounted specimen in the scientific museum could possibly be.

"There are many types of beauty. Beauty consists in more than that which appeals to the eye and which may arouse the imagination through that appeal. The scientists know what beauty is in the demonstration of law and in the discovery of purpose, and I doubt if any lover of art has experienced greater enjoyment of the true kind in contemplating a masterpiece on canvas or in stone, than did the botanist when he discovered the purposes of the color streaks in the pansy, the fine hairs pointing downward to the nectary in which nature has stored the drop of syrup to direct the proboscis of the bee which shall be thrust directly into the nectary, thereby securing the pollen which will be carried to the next flower and so perpetuate the species.

"I do not believe that we are going to gain anything by crossing swords on the difference between museums of art and museums of science. They have to be housed differently; the specimens, to use the word in its generic sense, have to be mounted differently; the lighting should not be precisely the same for both. But I believe that we may learn through each; that while fine pictures and statuary may please, they may also instruct, elevate, and educate; and that the specimens we speak of as being of a scientific character may also please as well as teach.

"I believe that the purpose of life is to learn to enjoy that which is best, that which is uplifting and elevating to the human soul, and that these art museums are, after all, but departments in the great museums representing human knowledge. I feel that we can apply, if we will, general rules to both, and that the American Association of Museums should include, as it rightly does include, both." (*Applause.*)

President Farrington.—"Are there any further remarks? Perhaps it is hardly fair to Mr. Gilman to discuss this paper in his absence. It would be a surprise to me if friends of art should entirely disclaim any idea of education. As Dr. Talmage has said, you can hardly avoid education even if you would. The aphorism of Dr. Goode, that 'a museum is a collection of labels, illustrated by specimens,' was at one time very widely accepted as a pregnant and poignant expression of the purpose of a museum. I think we have grown considerably away from this idea. It probably expressed the needs of the time when it was uttered, but at present I think we are learning more of the value and importance of specimens. I have often observed people interested in a collection that was not labeled. This does not prove that a collection should not be labeled, but sometimes an element of interest enters into finding out what a collection is. It may be just as well to seek to arouse this curiosity in a visitor; to let him study the exhibit himself, and to make it not too easy for him to get the lesson out of it. Any work we can do in that way seems to be of an educational nature, and while I would, of course, have labels, I think we may easily overweight their importance."

Miss Margaret T. Jackson, director's assistant in the Minneapolis Institute of Arts, then presented the following paper:

THE TREATMENT OF WALLS IN GALLERIES FOR PAINTINGS

The attention of museum men has long been focused on the question of backgrounds. Many treatises have been written on this subject and much study has been given in the attempt to attain perfection. Until now, however, perfection has been like a will-o-the-wisp just out of reach, and probably no museum man has thought he had attained it on one day without waking up the next to find it had

eluded him. To this very dissatisfaction, however, is due our progress.

Let us agree that a background must be the complement of the pictures hung upon it in color, texture, and pattern. With this in mind, let us consider first the use of textiles for backgrounds. Probably burlap has been more used than any other material in our galleries, partly because of its loose texture and partly because of its cheapness. The experiment of painting the walls under the burlap has been tried in different places. This gives a varied effect that makes the material much more attractive, and burlap should never be used unless some such expedient is resorted to, as the dead tone of the natural color is monotonous. The green burlap so often used fades atrociously, as many of us know to our sorrow. This fabric, like all coarse materials of this character, collects dust very rapidly and is hard to clean. It may, however, be painted over to freshen it when it becomes soiled. In figuring the cost of burlap it must be taken into consideration that the price of hanging is the same for a cheap material as for an expensive one, and, therefore, the initial cost will differ merely in the price of the goods. Fortunately, there are many rich men interested in our museums who are glad to dig deep into their pockets and bring out the difference in price. Certain other inexpensive materials are on the market such as homespun, monk's cloth, friar's cloth, etc. These are all of a closer weave than burlap and are less suggestive of potato sacks. The homespun makes a particularly good background for prints. Some of the sun-dure materials are also attractive in color and weave, although rather too thin for wall coverings. In the more expensive materials there are some good jutes on the market which come in pale grays and fawn color and which may be dyed according to one's taste. Some of these are very attractive, especially where the pattern is small and inconspicuous.

Pattern is a very serious consideration. A certain amount of inequality in the weave of the material enhances its value as a background because the light and shade that comes with an uneven surface makes the color less constant, and, therefore, adapted to a larger number of pictures, but where the pattern is too large it becomes obtrusive and we find ourselves thinking of the landscape wallpaper used by our colonial ancestors, which was never meant as a background but which, on the contrary, decorated the house without the need of pictures. Velvet makes an interesting wall covering, but it

is a great care, especially if exhibitions are to be changed frequently. Should the museum director choose a velvet, he must be careful that the pile is short, as otherwise the marks made by the frames will be very conspicuous. Also, a velvet with a short pile is easier to keep clean, as the dust clings to a long pile and is almost impossible to brush off.

Among the most attractive backgrounds, especially for ancient pictures, are the reproductions of the old Italian or French brocades. These reproductions are comparatively inexpensive and may be had from the manufacturers in Italy. If carefully chosen as to color and pattern they are satisfactory, well woven, and durable. They may be had in linen, silk and cotton, or pure silk as desired. Where it is possible, these materials should be bought directly of the Italian manufacturers, as our American buyers procure their stock in France, where they pay fancy prices for materials woven in Italy. This statement is made not on my own authority alone but on the authority of the buyer for one of the large wholesale firms in New York.

Another background which has been used successfully is wooden paneling such as may be seen in the rooms containing the German and Italian primitives in the Evans Wing of the Boston Museum. Here the wood is oak, slightly stained but not polished. In the central cupola room of the Dresden Pinakothek, a very elaborate paneling of some dark wood, perhaps walnut, has been used. This is darker in color and forms an admirable foil for the gold of the frames and the jewel-like colors of the wonderful paintings shown there.

An entirely different treatment may be seen in the Minneapolis Museum. Here the walls have been finished with rough plaster and tinted with water color. The surface thus obtained has many advantages. The initial cost is low and the matter of changing an unsatisfactory color or renewing the finish requires but little time or expense.

In the long tapestry gallery connecting the Evans Wing with the main building of the Boston Museum the walls have been lined with blocks of travertine brought from the neighborhood of Rome. The effect is delightful. There is a certain warmth of tone in the travertine and an unevenness of surface that make a beautiful background for the tapestries hung in this hall. A similar use of stone may be seen in one of the galleries of the Kaiser Friedrich Museum in Berlin.

When we come to the question of color, there is so much diversity of opinion and of nomenclature that it becomes very difficult to generalize. Careful study should be made of the paintings that are to go in any one room before the color is selected. Where the collection is growing rapidly, certain rooms should be devoted to certain schools, and a study should be made of each school with a view to determining the color which will be most successful as a background for that school. In this connection, the environment for which the pictures were painted should be considered, as important hints may be obtained from such a study. One European gallery made the tremendous mistake of thinking that a color which did not appear in any of the pictures would be the most successful background. The room I have in mind contains paintings by Rubens, Snyders, and other Flemish artists of that time in whose pictures red predominates. The color chosen for the walls was also a red but one which did not appear in any of the paintings. The effect was terrible. Almost any of the reds used in the pictures would have been better. At the inaugural exhibition of the Minneapolis Institute of Arts one room containing the French Impressionists was tinted with a neutral color which may, perhaps, be described as a gray warmed by a small amount of red violet. When the pictures, which came from different parts of the country, were hung in this room, it was found that every one of them had this tone somewhere in the picture, and I venture to believe that no roomful of French Impressionists ever looked better anywhere. There are, in a certain German museum, two rooms which will serve as illustrations of the good and the bad in the use of daring colors for backgrounds. One is a room hung with a cerise satin which has a blinding and dazzling effect upon the eyes of the visitor. No one who has seen it could ever forget it. To make the effect worse, the room is top-lighted so that the glare upon the lustrous surface of the satin adds to the brilliancy of the color and one finds that after looking at one or two of the really beautiful objects displayed in the room one is seeing green spots and feeling so faint that one moves quickly away. Equally daring, but far more successful, is the use of color in the second room, where a soft violet about the color of the little wild violets that grow in the woods in the spring has been used as a background for some XVIII century Italian paintings, Canalettos, Guardi's, etc. Never have I seen pictures of this period appear to such wonderful advantage. They are brilliant and luminous in color, a marked contrast to the usual dusty drab one associates with this school.

Considering the success with which reduced white has been used in the rooms of the German primitives in the Alte Pinakothek in Munich, it is rather remarkable that this color has not been more in vogue in this country. One of the few instances that I recall where it has been successfully used is in the rooms devoted to the study series of paintings in the Evans Wing of the Boston Museum. Here the rough plaster has been left in its natural color, which is a reduced white. Another room where this color has been used is the gallery for paintings in the Fogg Museum, Cambridge, but here the north light makes the color appear somewhat cold.

Red is beginning to be used again in some of our galleries. Some twenty years ago when Corrado Ricci was doing over the Brera, in Milan, he used a green which has since become known among museum men as 'Ricci green.' This was so much in vogue at one time and it was considered so perfect as a background that almost all of the older museums became imbued with the desire to tear off the beef blood red in fashion fifty years ago and be up-to-date by using what they supposed to be the 'Ricci green.' The original color in the Brera has faded to such an extent now that almost any shade of green may be called 'Ricci green' with impunity. Undoubtedly certain shades of green are more becoming to paintings than almost any shade of red, but it is impossible to generalize in regard to color. A very important point, however, that should be taken into consideration is the fact that to the average museum visitor a series of galleries in which the background colors are made to harmonize from room to room is much less tiresome than a similar series of rooms in which the backgrounds are all of the same color. In the Minneapolis Institute of Arts great care was taken to select colors which would harmonize in this way from gallery to gallery and where the same coloring is repeated it is not repeated in any two consecutive galleries.

It is, perhaps, worth while to say something here in regard to the tinting of walls in this museum. The Minneapolis museum was not the first to use a spatter, but it has been more successful in the use of this process than any other museum that I know. Great care and much study was spent in selecting the colors to be used and they are almost without exception both interesting and novel. In each room three tints were used; the first a solid foundation color, the second a large spatter, and the third a very fine spatter. In this way a vibration of tone was obtained which gives both greater depth and a more interesting surface. One of the most successful rooms is

that devoted to the Gothic period where a deep Gothic blue acts as a splendid background for the lovely tapestries of this period which hang in the room.

A word of warning is, perhaps, not amiss in regard to samples. Any color depends so largely on the light in the room in which it is to be used that it should be tried out with a large sample actually on the walls of the room before any decision is made in regard to it. Wherever possible, also, one of the pictures which is to go in the room should be placed against the color to try the effect. I have in my possession a small sample of a certain wall covering which has been used recently in this country which is a most lovely green, seen in the sample, but on the walls of the room in which it is hung it appears much too brilliant. I have here another sample of a green which in this small piece looks rather unattractive, yet as a background it is one of the best I know. In the use of textiles for wall coverings many museum directors have been disappointed to find that the color faded very rapidly after being put on the wall. To offset any such misfortune, it is only necessary to cut off a small piece of the material to be used and to expose it to strong sunlight for a week or two. By comparing this small piece with the larger sample a tendency to fade can easily be discovered.

If after spending hours, days, or even weeks in preparing your background you find that the ungrateful public pays no heed to the charming effect you have achieved, you will know that you have come as near perfection as it is given to any of us to reach, as the perfect background does not of itself attract attention but modestly throws into prominence the beauty of the objects displayed upon it.

President Farrington.—"Are there any remarks on Miss Jackson's paper?"

Mrs. Herman J. Hall (Art Institute of Chicago).—"I would like to emphasize Miss Jackson's remarks in connection with color. I have found from personal experience that people look best against a background of blue. If you would have your friends look well, put this color on the wall and you will find that everyone's complexion has improved. If this is true for people it will be true for pictures. I have tried it in small galleries and have found it the most satisfactory background."

Miss Theodora Pollok.—"I wonder if Miss Jackson will let us see her samples. I am sorry to say that when I passed through the Min-

neapolis Institute of Arts I was so deeply impressed with the beauty of the walls that I could scarcely see the things that were against them." (*Laughter.*)

Mr. Newton H. Carpenter (Art Institute of Chicago).—"This subject of wall coverings is always interesting. We once gave free rein to a person who wished to fix up one of our rooms. He first put a little color in the ceiling light, next a very brilliant and very expensive red plush velvet on the walls, a very fine marble at the base, and then a most beautiful mosaic floor with a large circle around the center. Some people said they felt like stepping over it when they went in. It was probably the finest decorated picture gallery in the United States but it was absolutely and totally worthless for the purposes for which it was intended. Visitors would have the same experience that Miss Pollok has just mentioned. They would say that the room is beautiful, the ceiling light fine, the Tiffany glass very elegant, the walls very rich, the marble exquisite, and the floor simply wonderful. If you asked them what they thought of the pictures they would say, 'Why I didn't see any pictures there.' You would have to take them back and show them the pictures. Pictures do not need anything of that kind to help them out and the wall coverings should be such as not to attract attention.

"Another gentleman presented us with two galleries and we allowed him also to decorate them. When he had finished they were simply exquisite for their purpose. When you visited them you never saw the floor or walls and you came away with a vivid impression of the pictures only.

"Sometimes we discover a good thing accidentally. Eight or ten years ago we had to finish very quickly nine new galleries. They were of the plainest fire-proof construction. In order to prepare the walls in the minimum time we pasted asbestos paper over them and then proposed to set our janitors to work painting, but the union men who were also working in the building objected. We told them that these were janitors, not painters, but they said anyone who used a brush was a painter. Our janitor, who seems to be equal to any occasion, said 'Suppose I use a sponge?' The union men said that would be all right, so we put our colors on with a sponge. It was one of the greatest discoveries in America. The spatter work Miss Jackson describes in Minneapolis is only a rough copy of what we did. The beauty of our process is this: If in hanging the pictures we find that the walls have not enough red or blue or gray the janitor

can mix up a little more color and change the walls with very little work and without any particular experience. It is the most inexpensive scheme we ever discovered and one of the most satisfactory. I was surprised at the number of people who inquired how the effect was produced.

"We have succeeded recently in finding burlap or canvas the width of the entire wall from the picture rail to the top. This we wind around the room. Then the janitor discovered another scheme. He dips a rag in kalsomine and stands off and throws it at the wall. If you will come and see the effect you will think it another of the greatest discoveries of the age."

Mr. E. W. Gifford of the Museum of Anthropology then gave an informal account of the temporary equipment of the museum, where it has been necessary to obtain as much case room as possible with a minimum expenditure of money.

The Association then adjourned for an inspection of the new building of the California Academy of Sciences, after which it assembled at the Golden Gate Park Memorial Museum, where the collections were viewed, and the curator, Prof. George H. Barron, delivered an address explanatory of the Pioneer Room.

SESSION OF TUESDAY, JULY 6

Evening

The meeting was called to order at 8.30 p.m. in the San Francisco Institute of Art. President Oliver C. Farrington, curator of geology in the Field Museum of Natural History, delivered the presidential address as follows:

THE RISE OF NATURAL HISTORY MUSEUMS

Whence they come and whither they go are inquiries that should be made from time to time by all institutions in order that they may profit by the experiences of the past and survey the way of the future. Owing to obvious limitations, I shall attempt to sketch the growth of but a single division of the museums represented in this Association, leaving to others the rounding out of the inquiry if it shall ever seem to them desirable to do so.

A desire to preserve objects of nature which aroused special interest or possessed unusual powers may be presumed to have been an instinct of the earliest man. We may imagine the cave man storing in his cave the bright gem, or curious seed, or rare animal skin which attracted his attention and, perchance, urging upon his descendants the desirability of preserving it. Such instincts are undoubtedly possessed by barbarous tribes. But such hoards have no permanent value or maintenance as long as there is a lack of a fixed habitation or of a social organization sufficiently strong to pass them from one generation to another. Hence, it may be noted in passing, an essential condition for the existence of museums is a sufficiently civilized and permanent state of society to preserve objects from generation to generation.

In the life of the ancient Egyptians conditions making toward the preservation of natural objects doubtless became more favorable than had previously been the case, since there are preserved to us from their time many objects of their art which were originally objects of nature. While material which they prized now occupies an honored place in our museums and their civilization was instrumental in preserving it to us, there is no evidence, so far as I know, that they undertook the collection and preservation of natural objects for their own sake.

The Greeks gave us the word *museum*, but that they ever established a museum in the modern sense seems very unlikely. Whatever their practice may have been regarding the preservation and exhibition of works of art, it seems quite certain that they carried on little, if any, effort of this kind with regard to nature. Alexander the Great, about 325 B.C., is said to have gathered together many animals and plants in order that they might be studied by Aristotle, 'the father of natural history,' but so far as we know no effort was made to preserve these specimens to later times. The first record of placing natural history specimens on exhibition is said to be that made when Hanno, a Carthaginian, somewhat before Alexander's time, procured skins of gorillas in Africa, and put them in the temple of Astarte. We also know that the monstrous horns of wild bulls which had occasioned great devastation in Macedonia were hung in the temple of Hercules by order of King Philip.

The Romans seem like the Greeks not to have taken much interest in the preservation of natural objects, at least as far as any record has reached the present time. We know that emperors and other

individuals possessed collections of statues and other works of art, and among these we find occasional mention of the preservation of so-called 'natural curiosities' such as bones of giants or peculiar human skeletons, but that any broad interest in nature existed which led to efforts to preserve and study its forms we have no record. Stray sources of information tell us of a crocodile, found in attempting to discover the sources of the Nile, being preserved in the temple of Isis at Cesarea, also that a large piece of the root of the cinnamon tree was kept in a golden vessel in one of the temples at Rome. Pliny relates that the bones of a sea monster, probably a whale, "to which Andromeda was exposed," were preserved at Joppa and afterwards brought to Rome. Suetonius says that the Emperor Augustus had a collection of natural curiosities in his palace.

One reason suggested by Beckmann for the rarity of collections of natural objects among ancient peoples was the lack of knowledge of satisfactory means of preserving such as were perishable. The preservative virtues of what was then called 'spirit of wine' but which we now know as alcohol seem to have been but little known, and only immersion in salt brine or a covering with wax or honey served at that time for the preservation of perishable materials.

The great institute of Alexandria in Egypt, founded in the third century B.C., is generally spoken of as being the first natural history museum of antiquity, but while this had botanical and zoological gardens, there is little reason to suppose that it was a museum of nature in the modern sense. The name museum in that institution was applied to a portion set apart for the study of sciences, and indicated rather a place of study than one for exhibition of objects.

From the fourth to the seventeenth century A.D., according to Goode, the term museum dropped out of use and the idea for which it stood must also have been dormant, yet even in those times many monasteries had collections of curiosities. In the treasuries of churches also were often preserved curiosities and rarities brought home by pilgrims or travelers. "In some churches," we are told, "eggs of ostriches and other things of like kind, which cause admiration and which are rarely seen, are accustomed to be suspended, that by their means the people may be drawn to church and have their minds the more affected." A few such objects may still be seen in churches. Thus, according to Murray, in the porch of the Cathedral of Merseburg, on the Saale, there is a large carapace of a tortoise. There are 'antediluvian' bones in the church of St. Kilian at Heilbronn,

and in the old Romanesque church of Alpirsbach, in the Black Forest. One hangs in the western entrance of the Cathedral of Halberstadt, and used to be passed off as one of the bones of Jonah's whale; while on the wall opposite hangs what was called a thunderbolt—or what we would now call a stone axe—kept as a protection against drought and lightning. In the choir of the parish church at Ensisheim, in Upper Alsace, there is a portion of a meteorite which fell in 1492. In the parish church of Petty, on the Moray Frith, the bones of a giant known as 'Little John' were preserved in the sixteenth century. Giants' bones were also preserved in the Cathedral of Vienna. Boccaccio records that in his day in the church of the Annunciation in Trapani, in Sicily, three teeth, weighing a hundred ounces, of an enormous giant of 200 cubits in height, were hung up on a wire. From such preservations as these it was but a step to collections made by travelers and maintained for their own interest and to the gradual accumulation of natural objects under the roofs of colleges and universities. Of such collections there were several of which we have record in the seventeenth century.

Certain natural objects seemed at this time to be especially desired. These were: (1) the horn of a unicorn, a fabulous animal which someone was always just on the point of seeing but never did; (2) Egyptian mummies, whole if possible but if not in part; (3) bones of giants, now known to be fossil elephants' bones but then regarded as human; (4) human skulls, especially those of criminals; (5) horns of deer or elk; (6) objects known as *cerauniae*, then thought to be thunderbolts but now known to be stone axes; (7) objects called *glossopetrae*, then regarded as serpents' tongues, now known to be arrow heads or fossil sharks' teeth. Nearly all of these objects were believed to have great medicinal virtue and moreover, by the mystery of their origin, appealed to the belief in the miraculous which characterized the time.

A traveler's description of the contents of the museum of Ludovico Settala, a physician of Milan, Italy, gives an idea of how many such museums were filled in the seventeenth century. "Here we observ'd," he says, "several sorts of very ingenious machines contriv'd for finding out the Perpetual Motion, looking glasses of all sorts, dials, musical instruments, books, medals, curious keys and locks, fruits, stones, minerals, animals; a prodigious variety of shells; and a great piece of cloth made of asbestos." The collection of the University of Leyden, according to a catalog published in 1691, contained among

other things "a Norway house, built of beams without mortar or stone; shoes and sandals from Russia, Siam and Egypt; Chinese songs, paper, books; Egyptian mummies and idols; an hand of a Meermaide; a mushroom above 100 years old; a thunder-bolt and a 'mallet or hammer' which the label said 'the savages in New York still kill with.' "

In the arrangement of these museums decorative effects were sought after rather than any scientific order. The arrangement of the Wormian Museum, which was one of the most celebrated museums of the seventeenth century, probably typifies that of many. "On the floor and on two shelves above it," we are told, "were boxes and trays containing small objects, beginning with earths and salts and proceeding in order through the mineral, vegetable and animal kingdoms, till they ended with parts of animals. Interspersed amongst these there was a miscellaneous assemblage of statuary, antiquities, birds, fish, bones, corals and petrifications. The upper part of the wall was covered with tortoises, crocodiles, lizards, skeletons, spears, lances, arrows, paddles and costumes from Greenland. Between the windows hung horns, antlers and head of deer and other animals; underneath on the floor lay vertebrae of a whale. From the roof were suspended a great polar bear, a shark and other fish, various birds and an Esquimaux kayak." The anatomical collection at Dresden is said to have been arranged like a pleasure garden, skeletons being interwoven with branches of trees in the form of hedges so as to form vistas. In the anatomical museum of Frederick Ruysch at Amsterdam, plants disposed in nosegays, and shells arranged in figures were mixed with skeletons of animals and anatomical preparations. The so-called decoration of a cabinet or museum was also deemed of much importance in these times. The tops of the presses or cases, we are told, were frequently ornamented with shells of great size, wasp nests, rhinoceros horns, an elephant's trunk, the horn of a unicorn, urns and busts of alabaster, jasper, marble, porphyry, or serpentine. Here likewise were placed figures of antique bronze, large lithophytes, animals made of shell, gourds cut in two; little trunks of bark, books made of the palm tree, globes, spheres, etc. Even of the British Museum as late as 1786 a visitor said that "it contains many collections in natural history; but, with the exception of some fish in a small apartment, which are begun to be classed, nothing is in order, everything is out of place; and this assemblage appears rather an immense magazine in which things have been

thrown at random than a scientific collection destined to instruct and honor a nation." Amid such chaos it is little to be wondered at that the great naturalists of the time, such as Linnaeus, Cuvier, and Buffon, set themselves above all things to the task of bringing about order, so that system and systematists ruled the eighteenth and nineteenth centuries till their dominance became in turn so great that a revolt appeared which we have witnessed in our own time. The chaotic condition of these centuries was in part the result of the times. The discovery of the New World had brought a flood of new material to the Old, and inquiry and interest were active on every hand. The acquisition of new material was deemed more important than the study of that already possessed. Moreover, it was still the age of wonder, and the exceptional things were sought after instead of the common things. The wonder excited by an object of course depended largely upon the interpretation given it, so that many things which seem common and ordinary enough to us today were at that time deemed of great interest. Again the museums had in but few cases attained to the dignity of public support, so that those who were in charge of them had to depend upon fees for most of their maintenance. This led to a tendency to procure and exhibit material possessing some morbid or vulgar interest in order that greater attendance might be secured and larger remuneration thus obtained.

"While an enormous quantity of material was collected in these museums," says Murray,¹ "it was only gradually that its real value began to be appreciated, and that it was turned to proper account. The early museums often had certain definite aims, and were intended to be exponents of science; but natural history was hampered by traditional opinions, and physical science was over-weighted by metaphysics. Everything was explained, but the explanations had always to be in accord with accepted doctrines of logic and metaphysics, which had themselves in turn to square with theology. The wonders of nature had an extraordinary fascination for men of science, who were constantly on the lookout for them. Any variation of the ordinary type of the common object was eagerly sought after, and the more extraordinary it was the greater was its attraction. Hence museums had a tendency to represent the abnormal rather than the normal, what was rare rather than what was common. A museum was a collection of curiosities, and although the word 'curi-

¹ *Museums, their history and their use*, p. 186.

osity' in its older sense had a broader meaning than at present, there was generally implied in it the idea of strangeness or rarity. The object to which it was applied was to be regarded as worthy of being looked at because it was odd or rare."

Among early museums which have survived until our own day the history of the Ashmolean Museum established at Oxford in 1682 may be considered typical. This had its origin in material gathered by John Tradescant and his son earlier in the century. Their collections were extensive and included materials illustrating not only natural history but industrial art and coins. Their collecting seems to have been of an indiscriminate character and without definite classification. These collections were acquired by Elias Ashmole in 1659 and passed by gift to the University of Oxford in 1682. "On the fifteenth day of May, 1679," we are told, "the first stone of that stately fabric, afterward called Ashmole's Museum, was laid on the west side of the theatre, and being finished by the beginning of March, 1682, there was put therein, on the twentieth day of the same month, about 12 cart loads of rarities sent to Oxon by Mr. Ashmole; which, being fixed in their proper places by Rob. Plot, LL.D.. who before had been intrusted with the custody of the said museum, were first of all publicly viewed on the twenty-first of May following by his royal highness James Duke of York, his royal consort Josepha Maria, Princess Anne and their attendants, and on the twenty-fourth of the same month by the doctors and masters of the university." Thus rapidity of installation and difficulty of access seem to have characterized this museum. While the museum was evidently invested with a certain amount of importance, it could hardly have been highly appreciated at the time. Edward Young called it "Ashmole's baby house," and the curator, though a man of much learning, received no salary.

Some have urged that because they were derived from single collections, the early museums were as a rule confined to special lines and that museums of broader scope were a product of later development. But so far as I can judge from accounts, the early museums were usually miscellaneous in their character, and development along narrower lines has been a modern practice. Such certainly was the history of the British Museum. This originated largely from two collections, one that of Robert Hubert who had a collection "of many natural rarities" which he had gathered, according to the account, "with great industry, cost, and thirty years' travel in foreign countries."

The other, and the collection upon which the British Museum was chiefly based, was that of Sir Hans Sloane (1660–175 $\frac{2}{3}$), a celebrated physician, president of the College of Physicians and of the Royal Society of England. He early commenced to form a museum, and continued to add to it without intermission until the close of his long life. In 1687 he made a voyage to Jamaica, and is said to have been the first man of learning whom the love of science alone led to that, then distant, part of the globe. He brought home with him not fewer than 800 different species of plants, and this was the first large accession to his collection. His museum and library were said to have cost upward of £50,000, and their value, according to his own and other accounts, to have been £80,000. At his death he bequeathed his whole collection to the British nation on condition that £20,000 should be paid to his family. The terms in which the bequest was couched showed a keen appreciation of the best means of making such a collection of public use.

“Whereas from my youth” the will read, “I have been a great observer and admirer of the wonderful power, wisdom, and contrivance of the Almighty God appearing in the works of his creation, and have gathered together books, both printed and manuscript natural and artificial curiosities, precious stones dried plants, ... and the like, ... amounting in the whole to a very great sum of money: Now, desiring very much that these things, tending many ways to the manifestation of the glory of God, ... the use and improvement of the arts and sciences and benefit of mankind, may remain together and not be separated, and that chiefly in and about the city of London, where they may by the great confluence of people be of most use, I do hereby request that [my] trustees do make their humble application to Parliament to pay £20,000 unto my executors in consideration of the said collection and also to obtain sufficient and effectual powers for the preserving and continuing my said collection, in such manner as they shall think most likely to answer the public benefit by me intended.”

Sloane's gift was accepted by the British Parliament, and in 1753 an act was passed for the purchase of the Sloane library and museum and of the Harley collection of charts and manuscripts, which was in the market at the time, for uniting them with the Cotton Library, and for providing one “general repository” for these and other addi-

tions that might thereafter be made. The act authorized the raising of the funds required by means of a lottery, and fully £90,000 was thus obtained. The three collections thus acquired and housed became the British Museum, which opened to the public on Monday, the fifteenth day of January, 1759. As originally organized, the British Museum was divided into three departments; (1) manuscripts, medals and coins; (2) natural and artificial productions; and (3) printed books. In 1802 the great collection of Egyptian antiquities acquired under the capitulation of Alexandria passed into the museum. This was followed in 1805 by the purchase of the Towneley marbles and terracottas, and the bronzes, coins, gems, and drawings in 1814. These acquisitions rendered it necessary to create a new department, that of Antiquities and Art, to which were united the Prints and Drawings as well as the Medals and Coins. Botany was added as a fifth department in 1827, after the bequest of Sir Joseph Banks' collection. In 1837 the Prints and Drawings were separated from the department of Antiquity and became an independent department. At the same time the department of Natural History was divided into two, one of Geology, including Paleontology and Mineralogy, and the other of Zoology. In 1857 Mineralogy was constituted a separate department. In 1861 the department of Antiquities was sub-divided into (1) Greek and Roman Antiquities, (2) Coins and Medals, (3) Egyptian and Assyrian Antiquities; and in 1866 the British and Mediaeval Antiquities were formed into a separate department along with the Ethnographical collections. Between 1880 and 1883 the Natural History collections were transferred to the new Natural History Museum in Cromwell Road.

In our own country the earliest general collection of natural history objects formed is said by Goode to have been one made at Norwalk, Connecticut, by a Mr. Arnold. This was prior to the Revolution. It was described as "a curious collection of American birds and insects." This collection served at least one important purpose, since it is said to have awakened in President John Adams an interest in natural science which led to the founding of the American Academy of Arts and Sciences.

The first natural history museum in our country, so far as appears from present records, was established at Charleston, South Carolina, in March, 1773. This was founded under the auspices of the Charleston Library Society, a request for "all the natural Productions . . . that can be had in their several Bounds" in order to

present "a full and accurate Natural History of the Province" being the call under which specimens were asked for.

It is gratifying that this museum has retained its existence to the present day and under the influence of its present able and energetic director is younger and stronger than ever. As might be expected, Massachusetts did not yield long in initiative to South Carolina so that we find the next natural history museum to be established in this country was at Salem, Massachusetts, in 1799. This was founded to provide a permanent home for the collection of the East Indian Marine Society. Salem was at that time a great trading port and its ships traveled over all the world. Returning shipmasters brought back the products of many lands and these rapidly formed an important collection. We are glad to record for this institution also a continuous career and abounding vitality at the present time. Another important early natural history museum in this country was the private museum of Charles Wilson Peale. Peale was a portrait painter of Philadelphia, but though an artist by profession was much interested in natural history. The foundation of his collection was a few of the bones of a mastodon, which he acquired in 1785. Sixteen years later he obtained the first entire skeleton of this animal which had, up to that date, been found. Besides specimens of natural history the museum contained wax figures of the different nations of the North American Indians, a collection of their arms and utensils, other Indian and European curiosities, and casts of ancient gems and statues.

The United States National Museum was practically founded in 1846 when, under the plans for using the Smithsonian bequest, arrangements were made for a museum in what is, incidentally, one of the longest sentences on record, as follows:

Whenever suitable arrangements can be made from time to time for their reception, all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States, which may be in the city of Washington, in whosoever custody they may be, shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified in the building erected for the Institution as best to facilitate the examination and study of them; and whenever new specimens in natural history, geology, or mineralogy are obtained for the museum of the Institution, by exchange of duplicate specimens which the Regents may in their discretion make, or by donation which they may receive, or otherwise, the Regents shall cause such new specimens to be appropriately classed and arranged.

In pursuance of this plan, in the building erected for the Smithsonian Institution, 30,000 square feet of space was made available for exhibition purposes. Occupancy of this was acquired in 1858. This space became inadequate after the Centennial Exposition, and in 1881 a new building providing 90,000 square feet of space was added. This building was occupied in part by industrial and historical collections, but those of natural history required by far the largest space. In a little more than twenty-five years the natural history collections, in which is included anthropology, had so increased in importance and extent that a new building having 233,000 square feet of exhibition space and 160,000 square feet of laboratory and storage space was provided for these collections alone. The earlier buildings had no provision for laboratory or storage space. Another indication of the expansion of the National Museum in natural history lines is afforded by the fact that whereas as late as 1893 there was but a single curator or custodian of insects, at the present time there are nine.

In addition to changes in space the National Museum underwent changes from the administrative point of view which have been described by Goode as follows: There were three periods, he says:

First, the period from the foundation of the Smithsonian Institution to 1857, during which time specimens were collected solely to serve as materials for research. No special effort was made to exhibit them to the public or to utilize them except as a foundation for scientific description or theory.

Second, the period from 1857, when the Institution assumed the custody of the 'National Cabinet of Curiosities,' to 1876. During this period the Museum became a place of deposit for scientific collections which had already been studied, and these collections so far as convenient were exhibited to the public, and so far as practicable, made to serve an educational purpose.

Third, the period beginning with the year 1876 in which the Museum undertook more fully the additional task of getting collections and exhibited them on account of their value from an educational standpoint.

The progress that has here taken place in the active acquisition of specimens instead of the passive reception of them and in paying more attention to exhibition of material may be said to have characterized all active natural history museums of this country in the past half-century.

The colleges of the country were in earlier periods, as now, centers to which natural history materials normally flowed, such materials being both acquired for teaching purposes and deposited for safe keeping. But the attention and funds devoted to the display and preservation of these objects were in most cases meager, and little effective effort towards the establishment of a natural history museum in connection with a college or university in this country seems to have been made previous to that of Prof. Louis Agassiz at Charleston in 1850 and at Harvard College in 1852. Agassiz's stay at Charleston was too brief to effect noteworthy results, but at Cambridge he accomplished much. He found little material at Cambridge suitable for illustrating his lectures upon geology and zoology and with characteristic zeal and energy he set about supplying the deficiency. Indeed it is possible that he regarded the founding of a museum as his most important work, since he expressed his purpose to "consecrate all his energy and ability to the creation of a great museum, the best arranged and most perfect in the world." It is a great tribute to the ability and enthusiasm of Agassiz that he was able under the shadow of the impending civil war to raise the sum of nearly \$200,000 from the legislature and citizens of Massachusetts for the founding of this museum. Agassiz stated his purposes in establishing the museum to be: First, to express in material forms the present state of our knowledge of the animal kingdom. Second, to make the museum a center of original research, where men who are engaged in studying the problems connected with natural history could find all they needed for comparative investigation; and, Third, to make the museum an educational institution having a widespread influence upon the study, the love, and the knowledge of nature throughout the country. That this museum has fulfilled and is fulfilling these high purposes no one will gainsay. Not only has it been a model institution in itself, but men trained in it have been active in the upbuilding of other museums.

Whether stimulated chiefly by the influence of Agassiz or by that of the Salem museum or if either, I do not know, but in 1867 the cause of college natural history museums was further advanced by the gift of George Peabody of \$150,000 to Harvard College for a museum of archeology and ethnology and of the same amount to Yale for a general natural history museum. Both of these funds have served to maintain important and valuable museums. A large and attractive natural history museum has recently been established at Prince-

ton University and many other universities and colleges in this country now have such museums of some size and importance, some institutions of lesser means being better equipped in this regard than others with larger funds.

The formation of natural history collections in connection with the work of learned societies has often occurred and has led to the founding of several important museums in this country. Examples are the museum of the Philadelphia Academy of Science, founded in 1812, and that of the Boston Society of Natural History, founded in 1830. Such institutions have performed services of incalculable value by their preservation of specimens and stimulation of continued interest in natural history.

With the exception of the aid given to the Charleston Museum by the City of Charleston in 1850, the first establishment of a museum of natural history under municipal auspices in this country seems to have been that in New York City in 1869. Leading citizens there, realizing the importance in the cultural growth of the city of such an institution, procured a charter from the legislature and obtained funds by private subscription. At first the city was asked to erect a single building to shelter both the museum of natural history and the museum of art, but fortunately sites were granted for a building for each. Fortunately also the plan of the building designed for the natural history museum was on a scale sufficiently large to provide for future growth. The first unit of the contemplated building was opened in 1877 and in less than forty years a large part of the original plan has been carried out, the present magnificent structure has been erected and it has been filled with precious material. In the view of the Hon. Joseph H. Choate, "the money spent by the City of New York in the development of this Museum and the Museum of Art is the best investment of public moneys ever made by it, whether we consider the direct benefit to the people or the prestige and character attained by the city as the great metropolitan center of knowledge and culture."

While the example set by New York City of supporting a great natural history museum largely by public funds has not been followed in exact form by many other American cities, the principle has been accepted either by the donation of sites and other privileges to museums founded by private munificence, or by municipal assistance to museums inaugurated by learned societies. The city of Milwaukee supports its natural history museum by a municipal tax and there are

gratifying indications that other cities will sooner or later adopt this method of support of museums. All cities should recognize such museums as an essential feature of their cultural equipment. Oakland, Denver, Providence, Charleston, and Grand Rapids may be mentioned as cities which have already shown sufficient appreciation of such institutions to found or support them. Among institutions supported by public funds several state museums which are doing work of great importance should also be mentioned.

To the beneficence of single donors has been largely due the founding of such museums as the Peabody, Field, and Carnegie museums. Such gifts as well as those of private individuals to museums already established show an interest on the part of individuals which in some cases has been in advance of that of the general public.

The natural history museums of Canada have developed chiefly under governmental or university auspices, and we are glad to note that increased appreciation and support seem to be accorded them in recent years.

The National Museum of Mexico has an excellent natural history section in which important material is preserved. Most South American countries maintain important natural history museums, especially in their capitals, those of Brazil, Argentina, and Chile being especially worthy of mention.

An endeavor to establish natural history museums and collections especially adapted to the interests of children has marked a new line of progress in recent years. The results have been very gratifying and promise wide usefulness. The purpose of such museums was well stated when in the plan of the Children's Museum of Brooklyn it was said that its purposes were "to form an attractive resort for children with influences tending to refine their tastes and elevate their interests; to create an attractive educational center of daily assistance to pupils and teachers in connection with school work; and to offer new subjects of thought for pursuit in leisure hours." Through a somewhat similar movement there has been brought about in many localities close connection between natural history museums and school work. This movement also seems destined to greatly increase the usefulness of natural history museums since it widens their appeal and brings about an acquaintance of the child with the museum which is likely to be an abiding and elevating influence.

The wide-spread public interest and support accorded to natural history museums which we have noted as occurring in recent years

seem to mark a new era in their history. In earlier years these museums, partly perhaps because of the auspices under which they were founded, addressed their appeal chiefly to the learned and the specialist. They either did not endeavor to develop or did not succeed in developing wide public interest. Such an attitude was unfavorable both to the museums themselves and to the public. It tended to make the museums mere storehouses for the accumulation of material and it gave the public an unfavorable opinion of their possibilities. Much of the awakening which I have noted as having taken place has no doubt had its origin in the labors of museum workers themselves, since they, with marked originality and enthusiasm, have shown what possibilities in the way of education and recreation lay in museums and their contents. Sir Hans Sloane's principle of the desirability of establishing museums where there is a "great confluence of people" seems also a sound one, since it is in such museums that the most marked development has taken place in the past quarter-century. This does not mean that splendid work is not being done by museums in smaller communities, but simply that since larger communities have as a rule larger opportunities they may obtain greater results when they improve these opportunities.

Next to what may be called the democratization of natural history museums perhaps the most significant feature of their development in the last quarter-century may be said to be the introduction of art into their methods of illustration and exhibition. Not only has a pleasing variety thus been gained in the old methods of installation, but the attractive and well-modeled groups which have been made effectively supplement the long rows of birds, shells, rocks, etc., which constituted the sole exhibits of earlier museums. In modern practice there are thus shown with more or less detail not only objects but their environment and surroundings. The lesson taught by a single object no longer suffices; it must be represented, if possible, in its natural setting. This is, consciously or unconsciously, a recognition of the fact that nothing in nature is of isolated origin; it is the product of the working of complex and varied forces. These forces, then, should be at least hinted at in the representation of the object. The food of an organism, the various stages of its development, its habitat and its habits must be represented before the organism itself can be thoroughly understood. But in the development of this attractive and fascinating field one note of caution should perhaps be sounded. A tendency to prefer imitation to reality is not

one which those interested in the progress of science at least should seek to promote. The existence of this tendency from early times is shown us in the incident of the Greek audience who applauded wildly the actor who imitated the squealing of a pig, but drove off as an impostor the peasant who produced real squeals from a pig hidden under his coat. A chance companion with whom I visited the battle-field of Gettysburg was continually referring with enthusiasm to the well-known panorama of that battlefield, while in the locality itself he took not the slightest interest. Desirable as is the introduction of the best of art into our natural history museums, it should not usurp the place of science, for otherwise they become museums of art and not of science. Highly desirable as are museums of art and much as observance of the principles of art is needed in the conduct of natural history museums, we should not confuse them in modern development.

Another cause for recent increased interest in natural history museums is doubtless a growing appreciation of the value of nature study. The exigencies of city life have practically closed the book of nature to many dwellers in cities. There is one school district that I know of in Chicago which contains only two trees and at last accounts one of them was dying. How shall the wonderful lessons of nature, of which man is after all but a part, be taught to children in the city unless there be institutions which will depict and reproduce its forms? If city life means that thousands of children can never see birds, butterflies, flowers, rocks, etc., in their native haunts, the city should try to provide means to show the form and wherever possible the substance of these things, especially as in doing so it can provide a far larger variety than would naturally occur in any single locality.

Still another reason for an increased interest in the work of natural history museums may arise from a realization of how rapidly many of the forms of nature are vanishing before the progress of man and his works. The leveling of forests, draining of marshes, and irrigating of deserts cause marked changes in nature. The destruction of one species makes changes in the habits and habitat of others. These in turn react upon their environment and cause new confusion. The practical disappearance of the Indian from the North American continent was not wholly due to his forcible segregation by the white man, but in part at least to the destruction of the buffalo which constituted his normal food supply. With the buffalo, disappeared in

part at least the wolves and eagles which fed upon them. These in turn are doomed to practical extinction. A large share of the animals and plants inhabiting this continent at the time of its discovery by Europeans are not destined to survive long except as they are protected by man, and will soon become extinct in spite of him. The wild pigeon, so common in Audubon's time that he saw shiploads which had been caught up the Hudson for sale on the wharves of New York for a cent apiece, has become entirely extinct. Other birds, flowers, and even minerals have also become extinct in this country since the first coming of the Europeans. To museums must be largely assigned the work of conserving the remains of such forms ere they are absolutely lost. Specimens which are valuable now will be priceless in years to come. As but a single illustration of the great value which specimens preserved now may prove to have later may be mentioned the fact that an important link in the study of mutations has lately been furnished by specimens collected in this country by Michaux in 1785 and preserved in the Natural History Museum of Paris.

Again, interest in natural history museums has doubtless been quickened in recent years through recognition of the evolutionary trend of nature. This has given new meaning to her works and suggested interesting methods for the arrangement of collections. Where so well as in museums can the successive stages be shown by which the progress of nature has gone on, by which the creature has become adapted to its environment and the fittest has survived? As this great law of life is found more and more to express nature's methods, its lessons can be convincingly and satisfactorily taught by museums.

While a desire for more knowledge of nature has been the prevailing influence in the establishment of natural history museums, it should not be forgotten that these museums have themselves in turn contributed much to our knowledge of nature. Not only has this been done by research work and publications, but even the mere necessity for orderly arrangement of museum material has of itself sometimes produced such new knowledge. The science of archeology is said to have dated its origin from the time of the arrangement of the Museum of Copenhagen. The study of meteorites has been made possible as a science by the accumulation of a large number of these bodies by museums. All biological sciences are under obligations to natural history museums for many of the data which have aided in their development.

The brief sketch which has been submitted serves to show that natural history museums must now be fully recognized as an indispensable feature of modern civilization and I believe that the progress of civilization will only fix them more firmly in this place. The vicissitudes which the development of these museums has suffered have only emphasized their importance and made more evident their functions. The opportunities which now open before them are larger and at the same time more clearly defined than ever.

As an ideal toward which not only natural history museums but all museums so far as the outlook at the present day is concerned should work, I cannot do better than to quote, with some slight modifications, an utterance of Ruskin: "The first function of a museum is to give an example of perfect order and elegance. Everything should be in its own place, everything looking its best because it is *there*. Nothing should be crowded, nothing unnecessary. The museum is only for what is eternally right and well done. The least things are there and the greatest, and all good. The simple may go there to learn, and the wise to remember."

The following paper was presented by Mr. Paul M. Rea, director of The Charleston Museum. Mr. Rea prefaced the presentation of his paper by remarking upon the coincidence that the subject he was about to discuss proved to be an intensive study along the lines of the more general discussion of the presidential address.

A CONTRIBUTION TO EARLY MUSEUM HISTORY IN AMERICA

In this paper are assembled for the first time in consecutive order some of the results of a series of investigations which have recovered many long-forgotten facts in the history of our oldest museum.¹ These facts are presented here as a contribution to the history, as yet unwritten, of the development of museums in America, and in the hope that the story they tell may prove of general interest.

¹ These investigations have been accomplished through the cooperation of a number of workers, among whom the author desires to mention especially Miss Eola Willis, Mr. Wm. G. Mazyck, Mr. John Bennett, and Miss Mabel Webber. The files of the *Bulletin of The Charleston Museum* since 1906 contain full reports of the progress of these studies.

Our oldest museum was established by the Charles-Town Library Society in Charleston, South Carolina, in 1773, just twenty years after the founding of the British Museum. Not only is the Charleston Museum our oldest existing museum but, as far as present knowledge goes, it is the first public museum established in America. To the Charles-Town Library Society is thus due the credit of conceiving the museum idea, or at least of first giving it formal expression. The prospectus published by the society in the *South Carolina Gazette* (Powell's) of March 22 and April 5 and 12, 1773, and in the *South Carolina Gazette and Country Journal* of March 30 and April 6 in the same year is so remarkable a document that I venture to quote it in full:

**The LIBRARY SOCIETY,
OF
CHARLES - TOWN,**

TAKING into their Consideration, the many Advantages and great Credit that would result to this Province, from a full and accurate NATURAL HISTORY of the same, and being desirous to promote so useful a Design, have appointed a Committee of their Number to collect and prepare Materials for that Purpose.

That this may be done in the most complete and extensive Manner, *they do now invite* every Gentleman who wishes well to the Undertaking, especially those who reside in the Country, to co-operate with them in the Advancement of this Plan. - - - For this Purpose, the Society would Request such Gentlemen to procure and send to them, all the natural Productions, either Animal, Vegetable, or Mineral, that can be had in their several Bounds, with Accounts of the various Soils, Rivers, Waters, Springs, &c. and the most remarkable Appearances of the different Parts of the Country.

Of the Animal Tribe, they would wish to have every Species, whether Terrestrial or Aquatic, viz. Quadrupedes, Birds, Fishes, Reptiles, Insects, Worms, &c. with the best Accounts of their Customs and natural Habitudes.

Of Vegetables, they will thankfully receive every Kind, from the loftiest Tree in the Forest, to the smallest Plant of the Fields. - - - A complete Specimen of any Tree or Plant, will be two small Branches of each, one having the Flower in full Blossom, and the other the ripe Fruit. - - - At the same Time the Society beg to be furnished with the best Accounts that can be given of the Uses and Virtues, either in Agriculture, Commerce, or Medicine, of which such Tree or Plant is possessed - - - the Soil in which it most commonly grows - - - the Season in which it flowers, and when it bears its Fruit.

They would be glad to be furnished also with Specimens of all the various Fossils, Minerals, and Ores, the different Soils, Earths, Clays, Marles, Stones, Sands, Shells, &c. the Productions of this Province, with the best Accounts of their several Natures, Qualities, Situations and Uses.

The Society, in order that this Design may be carried into immediate Execution, have fitted up a Museum for the Reception and Preservation of Specimens of these several natural Productions, and have appointed CHARLES COTESWORTH PINCKNEY, and THOMAS HEYWARD, jun. Esquires, with ALEXANDER BARON, and PETER FAYSSOUX, Physicians, in *Charles-Town*, to receive them; to whom all Letters of Intelligence, Specimens, &c. are to be addressed.

And they flatter themselves, that the evident Utility of the Plan, will engage such a Number of public spirited Gentlemen to assist them, that they will soon be enabled to make a considerable Progress. - - - They will not only gratefully receive all such Communications, and apply them in the best Manner they can for the above Purposes, but the Names of such shall be recorded as Promoters of, and Contributors to, so useful a Work.

Any Expence that may be incurred by forwarding Letters of Intelligence, Specimens, &c. to Town, the Society will cheerfully repay.

By order of the Committee,

JOHN MURRAY, *Chairman.*

It would be hard today to express more perfectly the purposes of a local museum than was done in this prospectus one hundred and forty-two years ago. Practically the only phase of museum activity as we now conceive it which is not included in this advertisement is the educational work with public schools, and it must be remembered that in those days there were no public schools.

Like most human activities, this museum long failed to realize completely the ambitions of its founders, but when we remember that the year which gave it birth was followed immediately by the long ravages of the Revolutionary War we can only wonder that the integrity of the museum was maintained and the collections increased during this trying period. That this was done we learn from Ramsay's History of South Carolina,² in which he states:

On the 17th of January 1778, a very extensive fire took place in Charles-town, when this library, containing between six and seven thousand volumes, comprising a very valuable collection of ancient authors, with paintings, prints,

² Ramsay, David, History of South Carolina. Charleston, 1809, Vol. 2, p. 379.

a pair of elegant globes, mathematical and other instruments, and many specimens of natural history, was almost totally destroyed.

The next record in the history of the museum consists of a small notebook in which were entered the articles presented from 1798 to 1808.³ This is the oldest museum accession book in America. It is particularly interesting to note that two of the specimens presented in 1798 are still in the collection and in good order. These are a cassava basket from South America and a grass helmet from the Sandwich Islands. It is also of interest that the museum has received within the last two months a photograph of a portrait of the donor of the cassava basket.

In March, 1815, the Library Society gave its collections and cases to the Literary and Philosophical Society of South Carolina. This society had been incorporated in 1814 for the purpose of collecting, arranging, and preserving specimens of natural history, and of things rare, antique, curious, and useful, and secondarily for the promotion and encouragement of the arts, sciences, and literature generally. Great credit must be given to the Library Society for its foresight and generosity in transferring its museum to the new organization, since this action undoubtedly made possible a larger development of the museum than could have been expected as a subsidiary activity of the Library Society.

The development of the museum inaugurated by the Literary and Philosophical Society, upon receipt of the collections from the Library Society, is so well told by the founder of the society, Dr. Shecut, that I quote as follows from his *Medical and Philosophical Essays*:⁴

The objects of the association were no sooner publicly known, than numerous donations of specimens, in every department of the arts and sciences, were liberally bestowed, with which to commence its Museum. These, with the cases and collection, presented by the *Charleston Library Society*, in 1814⁵ began to assume a respectable and very flattering appearance.

The opportune arrival of that distinguished naturalist and practical chemist, Dr. FELIX L'HERMINIER, from Guadeloupe, with an extensive collection of specimens, the fruit of twenty years application, expense and industry, which he offered to the society, was an advantage, not to be lost sight of. Negotiations

³ This accession record has been printed in *Bull. Chas. Mus.*, Vol. 2, 1906, pp. 47-54.

⁴ Shecut, J. L. E. W., *Medical and Philosophical Essays*, Charleston, 1809, pp. 49-52.

⁵ In 1815, according to the records of the Library Society.

were immediately entered into with that gentleman, by a committee of the society. The citizens were also invited to co-operate with them in effecting the purchase of this collection, towards the establishment of a respectable and scientific Museum in Charleston.

Those persons who subscribed fifty dollars, on payment of that sum, became members for life. The State Legislature and the City Council, alive to the importance of this object, with a promptness and liberality, which will forever redound to their credit, contributed largely towards the purchase, and, with the sums subscribed by individuals, enabled the society to make a purchase of that valuable collection, which is now one of the chief, and perhaps, most interesting ornaments of the city.

The superior personal attention and talents of Dr. L'HERMINIER, were also enlisted in behalf of the society, by being appointed superintendant of the Museum. This was also an acquisition of importance; his practical knowledge in every department of science, and particularly that of chemistry, had already given a character to that department, which cannot fail to ensure its future progress. . . .

Our distinguished fellow citizen the Hon. THOMAS SUMPTER, minister, resident at Brazils, has lately enriched the Museum of the society, by presenting it with an extensive, splendid and very valuable collection of minerals, birds, and insects of Chili, and the Brazils. The society are also in a very especial manner indebted to the Hon. JOEL R. POINSETT, the Hon. HENRY MIDDLETON, STEPHEN ELLIOTT, Esq. Messrs. MACLURE, CARADEAUX, and other respectable individuals, for their valuable donations of specimens in natural history, and for which, their names have been honorably mentioned in the journals of the society.

. . . the society may be said to be in a flourishing condition. It consists of 138 members, many of whom are of the first standing in society, and of acknowledged literary and scientific talents. Its Museum is rich in an extensive collection of minerals, fossils and shells. The departments of Zoology, particularly those of Ornithology, Erpetology, Ichthyology and Entomology, are extensively filled. It is also rich in coins, medals and castings. The specimens of art are also very considerable; and the whole are arranged in the most appropriate order by their late superintendant.

The library of the society, being for the most part confined to books of science, is yet in its infancy. . . . A fund is appropriated towards its particular establishment, which has been enriched by a donation of 750 dollars, from JOHN BLAKE WHITE, Esq. one of its members.

Upon the whole, this society may be said to be established upon such sure foundation, as cannot fail to ensure its ultimate success, and we look forward with pleasing anticipations to that period, when it will rank among the most useful and respectable institutions of the kind in America.

There is no record of the price paid for the L'Herminier collection, but a private letter of the period describes it as held at a valuation of \$10,000. The actual purchase price may have been less, but in any event it indicates a considerable activity on the part of the society and interest on the part of the citizens, the city council, and the state legislature. It is not improbable that the appropriations made to

the Charleston Museum in 1815 were the first grants of tax funds to an American museum.

We have no details as to the nature and extent of the L'Herminier collection. Indeed, there is record of only one specimen of this lot. That one is of peculiar interest. It consists of parts of the skull and a few fragments of the long bones of the famous skeleton of the fossil man of Guadaloupe. Many of you will remember that a number of skeletons were found in the modern coral limestone on the island of Guadaloupe early in the nineteenth century. One of these found its way to the British Museum and another to the Paris Museum. The British Museum specimen has had a remarkable history. It was found on board a French ship captured by a British admiral, and was by him presented to the British Museum. This skeleton lacks the skull and certain fragments of the long bones. The specimens in the Charleston Museum supply the missing parts of the skeleton in the British Museum, as stated by Mantell in his *Wonders of Geology*.⁶

That museum development was subject in those days to the same vicissitudes which often confront it now is evidenced by the fact that in 1819 Doctor L'Herminier, being unable to make a living in Charleston, found it necessary to return to Guadaloupe.

In 1824, however, a vigorous effort apparently was made to arouse general public interest and to raise funds for the erection of a building to house the collections, as we learn from the following communication on the editorial page of the *Courier* of November 23, 1824. It is to be regretted that the writer is unknown.

The Museum of South Carolina, in Chalmers-street, is this day open for public exhibition, which is to continue until the first of May next. The entire avails will be appropriated to the laudable purpose of raising a building to contain the collection, and if the citizens are unanimous *in purchasing Season Tickets*, this, with donations that may be expected from the friends of science, funds sufficient may be obtained to commence a building before next fall. There is no present prospect that those who are giving time and talents to the interests of this Museum, shall ever see it *in a proper building in Charleston*, except by means of public subscription. Were a house once built, the Museum would improve in its collection, and be able to support itself. Strangers from the interior of this State, from North-Carolina, Georgia, Florida and the West-India Islands, in the winter and spring, would not fail of visiting the Institution, and carrying the information to their distant homes, would tell of what they had seen, and impel others to their example; so that the Museum of South-Carolina would obtain a name, (a very great object) and soon become as well known in the South, as Peale's Museum is,

⁶ London, 1848, Vol. I, p. 87.

in Pennsylvania and Maryland. In these enlightened times, a public Museum is as necessary an appendage to a city, as a public newspaper or a public library, and I hope we all wish to see Charleston possessed of every Institution that other cities of the Union can boast of.

In 1826 the museum was conducting a most creditable exhibition and seems to have succeeded in arousing the most lively interest on the part of the public. In most issues of the *City Gazette* in January 1826, the following advertisement appears, from which much may be learned of the extent and diversity of the collections which Mills mentions as being at that time "an honor to the state:"

THE MUSEUM OF SOUTH CAROLINA

In Chalmers' street, (near the City Square,)

CONSISTING of an extensive collection of
Beasts, Birds, Reptiles, Fishes, Warlike
Arms, Dresses, and other CURIOSITIES—among
which are:

The HEAD of a New Zealand Chief
An Egyptian Mummy (a child)
The Great White Bear of Greenland
The Black and the Red Wolves of South Carolina
The South American Lion
The Duck Bill'd Platypus from New Holland
The Bones of an Ostrich as large as those of a
Horse
The Boa Constrictor or Anaconda Snake, 25 feet
long
The Grampus Whale, 20 feet long
800 Birds, 70 Beasts, 200 Fishes
4000 Specimens of Minerals.
Shoes of the Chinese Ladies, 4 inches long
The Saw Fish — — — Saw $4\frac{1}{2}$ feet in length
A large collection of views of the Public Build-
ings, &c. in Europe — — — and
A Fine Electrical Machine

The whole elegantly arranged in glass cases,
open every day from 9 o'clock, and brilliantly
illuminated every evening, with occasionally a
Band of Music.

 Admittance 25 cents. Season tickets \$1.;
Children half price. f Jan, 6

The above is the second oldest accession list of the museum collections yet discovered.

This, too, from the *Charleston Courier* of January 23 of the same year is interesting if not quite so valuable:

MUSEUM

VISITORS are requested not to touch any of the Animals on the floor of the Museum, as these Animals are newly put up and not dried; every thumb or finger making an impression on the stuffed skin, injurious to its natural appearance.

It is surprising to learn that museums were so popular nearly a century ago that they had to be brilliantly illuminated every evening. There was even rivalry for popular favor, for other newspapers contain notices of the existence of a second museum in Charleston at this time. This was apparently more of a commercial venture but also contained large series of specimens. The interest of the public may have been something of a fad, however, for we learn in 1827 that the museum failed to obtain the necessary funds for erecting a building of its own, and the Literary and Philosophical Society therefore deposited its collections in the Medical College of the State of South Carolina, which had been recently organized. The following note appears in an advertisement of the Medical College published in 1828 and was continued in the catalogs of the college through 1846:

The Student of Anatomy and Natural History, has facilities afforded him, which are equalled by few, and surpassed by no similar institution of our country. In addition to the Anatomical preparations and Chemical Apparatus received last year from Europe, the Chalmers-Street Museum, containing a large collection of Minerals, Shells, Birds, &c., has been removed to the college, where it will permanently remain.

The Medical College evidently devoted itself actively to the increase and development of the museum, although it probably diverted it to more distinctively medical uses. The museum remained with the Medical College until 1850, when the building in which it was contained was torn down to make room for the erection of a new hospital. This necessity of making further arrangements for the housing of the museum came at an opportune time, since Charleston then possessed a galaxy of scientific men, stimulated and guided by Professor Louis Agassiz.

The American Association for the Advancement of Science held its third meeting in Charleston in 1850, and at the session of March 16 Agassiz suggested the desirability of establishing a larger museum in Charleston about the nucleus of the museum of the Literary and Philosophical Society. This is apparently Agassiz's first effort in museum development, and is particularly interesting as a prelude to his great work for the Museum of Comparative Zoology at Cambridge.

Interest developed rapidly and at a meeting of the board of trustees of the College of Charleston on March 28 (almost exactly the seventy-seventh anniversary of the founding of the museum) a proposal was favorably received looking to the use of rooms in the College of Charleston for the museum. This plan was formally approved by the trustees on July 15, 1850, and was communicated to the city council for endorsement, since the city was expected to defray the maintenance of the museum. The minutes of city council were destroyed during the Civil War but the communication of the trustees of the college fortunately was printed in the Charleston *Courier* of July 19, 1850, and contains the following indications of the plans for the museum:

The yearly regular expenses therefore may be estimated at about fifteen hundred dollars and it is believed that at present that amount cannot be raised by private subscription, and under existing circumstances, could only be permanently provided by an annual appropriation by the city. It is confidently believed that such an appropriation would be amply compensated by the advantages which a well regulated and well sustained museum would bring to the city. It would aid greatly in exciting and rewarding a spirit of research and accurate enquiry among all our students of Natural History. It would furnish us with new and accurate information of the changes which have taken place in the different accessible strata of our State, and of the inhabitants in all the departments of nature, by which these strata have been successfully occupied. It would assist the agriculturalist in studying the nature of his soil, and suggest the means of stimulating its fertility.

It would bring us into direct relations with the distinguished naturalists of this country, and of Europe, and be a point of attraction to them under favorable auspices, and maintained with that zeal and ability, which it would surely deserve, it would be an ornament and an honor to the city and to the State.

The application of the trustees was favorably received by city council and on August 29, 1850, an "Ordinance to provide for the appointment of a curator for the museum of the College of Charleston" was duly ratified. This ordinance was printed in the *Courier* for August 31, 1850, and in several succeeding issues, as follows:

AN ORDINANCE to provide for the appointment of a Curator for the Museum of the College of Charleston, and for other purposes.

Whereas, by a report from the Trustees of the College of Charleston, submitted to Council on the 16th July, by the Hon. Mitchell King, President, it appears that several scientific gentlemen have generously tendered, as a free gift for the use and advantage of the public, their collections in the various departments of Natural History: *And Whereas*, The Trustees aforesaid having designed to provide suitable apartments in the College Buildings, for the accommodation of a Museum of Natural History: *And whereas*, the prosperity of the College is associated with the highest interests of our City and State, and is directly under the patronage and control of the City Council of Charleston.

SEC. 1. *Be it therefore ordained*, That the Trustees of the College of Charleston be and they are hereby authorized, when and so soon as the said apartments shall have been designated, and the collections referred to in their report to Council, shall have been placed at their disposal to proceed to the election of a Curator for the Museum, and they are also authorized to make all proper rules and regulations for the government of the said Museum; and the salary of said Curator shall be twelve hundred dollars per annum.

SEC. 2. That there shall be appropriated the annual sum of three hundred dollars for the maintenance and improvement of the said Museum; the same to be paid out of the City Treasury to the Trustees of the Charleston College, and to be applied and expended under the direction of the said Trustees.

Ratified in City Council this twenty-ninth day of August, one thousand eight hundred and fifty, and in the seventy-fifth year of American Independence.

T. LEGER HUTCHINSON, Mayor.

By the Mayor.

JAMES C. NORRIS, Clerk of Council.

Au 31

It is not improbable that Charleston thus became the first American municipality to enter into a permanent supporting relation to a museum.

Professor F. S. Holmes was appointed curator of the museum on November 25, 1850, and fourteen months later the opening of the museum was formally celebrated as we learn from the following article in the *Courier* of January 26, 1852:

Museum of the College of Charleston.—On Saturday last, at 12 M., the opening of this excellent and valuable Museum of Natural History and Geology was celebrated at the College Building, by an interesting ceremonial. By the invitation of the Board of Trustees, the Mayor and Aldermen of the City, the Faculty and Alumni of the College, and a large number of literary and distinguished guests were present. Professor F. S. Holmes, the able, scientific and devoted Curator of the Museum, who also fills the Chair of Geology and Palæontology, presented his report of the organization of the Museum, showing how, in the short space of fourteen months (the period since he commenced operation) it had reached its present high and palmy state, and that, wholly from the voluntary contribution of specimens—the contributors having been about

sixty-seven in number, and chiefly from the districts of Charleston, Beaufort and Georgetown, and there being a certain prospect of early and valuable additions to the collection. The Hon. Mitchell King, President of the Board of Trustees, and the liberal patron of the College, then addressed the Mayor and Aldermen on the advantages of the Museum, giving a highly interesting sketch of its origin and progress, justly eulogizing the indefatigable labors and enthusiastic zeal of the Curator, and suitably acknowledging the past favors and invoking the continuance of the liberal aid extended by the City authorities to the infant enterprise. In the course of his remarks, he alluded in just terms to the presentation to the Museum of the valuable collection of the old Literary and Philosophical Society and to the large and valuable contributions of Professors Buchanan [Bachman], Agassiz, Gibbs [Gibbes], and Shepperd [Shepard], and Henry W. Ravenel, Esq., in the Botanical, and of Professor Holmes himself, in the Geological department, and of many other liberal friends of science. The Hon. John Schnierle made an eloquent response to the address of the President, congratulating the Trustees and the community on the increasing prosperity and usefulness of the College, and . . . recognizing in the Museum an institution eminently worthy of the fostering care which had been extended to it by the present Council and their predecessors in office. Professor Agassiz closed with a few remarks, in which he expressed unbounded admiration of the skilful and successful labors and arrangements of the Curator, stated the peculiar advantages enjoyed by Charleston for the establishment of a Museum, especially from the invaluable fossil remains in her immediate vicinity, and announced the gratifying fact from his own personal observation, that our infant Museum, although but fourteen months old, has nothing to compete with it in the whole Union, save the superior institution in Philadelphia, which has existed for 30 years. . . .

The Museum occupies the entire extent of the upper story of the main college edifice and the specimens are most tastefully and skilfully arranged and classified. Its value is said by scientific men to be beyond computation in money, and its creation and possession are an honor to our City. . . .

Space forbids any account of the dangers to which the museum was exposed or of the steps taken for its protection during the Civil War and of the details of its development during the remainder of the nineteenth century. It is rather to the broader aspects of its experiences as a college museum that attention is invited. Approximately 38 per cent of the 600 museums in the United States are college museums, and as a class they seem hopelessly moribund in comparison with the 15 per cent which derive their maintenance chiefly from municipal appropriations. The writer has discussed elsewhere⁷ the causes of the deplorable condition of most college museums and wishes merely to illustrate the general problem by the particular instance of the Charleston Museum. The College of Charleston received the mu-

⁷ Educational work of American Museums. Rep. U. S. Commis. Ed., 1913, Vol. I, ch. 13, pp. 299-302.

seum most heartily, as we have seen, cheerfully gave to its use about half the space in its main building, and took great pride in the distinction which it conferred upon the college. Inevitably, however, as in every similar situation the writer has investigated, it found the museum something of a white elephant, a useful but not vitally essential adjunct. As such the museum could not receive the large financial support from the college necessary to its adequate development. College museums are more numerous than any other class because in their early and inexpensive state they appeal strongly to college authorities. As they wax in size they invariably become a burden and an unjustifiable expense.

The Charleston Museum, typical of its class, grew through the tireless energy of devoted curators who collected material, begged money, and performed the most varied work with their own hands. They also developed the one unique and saving factor in the situation, the element of municipal support. The fostering relation toward the museum adopted by the city council in 1850 as a result of certain obligations to the college, as well as from a public-spirited appreciation of the plan, provided by more or less regular appropriations the maintenance funds without which development could not have proceeded, and which the college legitimately could not have supplied. That this intermediate position between the purely college museum on one hand and the public or municipal museum on the other succeeded as well as it did for half a century is remarkable. It is not surprising, however, that the municipal authorities finally came to feel that the museum was not a sufficiently useful public institution to justify any large use of tax funds, while the college felt an increasing need of the space the museum occupied and a fuller realization of the impossible demands the adequate support of the museum would make upon its funds. The museum thus became a burden upon its host, the college, and a poor investment for its patron, the city. The college ceased to apply any funds to the museum and the city appropriation was gradually reduced to \$250 in 1904. The museum was overcrowded, under-lighted, inaccessible, inactive. Its only care was the voluntary attention given by the professor of biology over and above the full work of his department, and a few hours service of a negro janitor. The collections were necessarily disintegrating.

From this deplorable condition there seemed but one avenue of escape. The phenomenal success of municipally-supported public

museums, in contrast with the restricted opportunities of the museums of learned societies and the almost hopeless condition of most college museums, pointed the way. The city council responded to a new program for the museum with a generosity and appreciation in keeping with its traditions, increased its appropriations, and in 1907 provided a building for the museum. The collections were rehabilitated, the interest of the people was aroused. In March, 1915, after one hundred and forty-two years under the fostering care of other institutions, the Charleston Museum was independently incorporated with a board of trustees representing the best elements of the community. Its income has increased three thousand per cent; its staff includes eight persons regularly, in addition to honorary curators and special employees; it has its own library and laboratories and complete wood-working and printing shops; it is affiliated with the public and private schools and with the Medical College, and gave regular instruction to four thousand persons in 1914 as compared with two thousand in 1913 and a few hundred in 1912. Best of all it is every year becoming more firmly established in the hearts of the people.

Not the least significant fact in the history of our oldest American museum is that it has experienced successively the three chief forms of museum organization: (1) society support, (2) college support, and (3) public support. Furthermore, it has demonstrated conclusively that the last affords the largest possibilities of development and public service.

Prof. Homer R. Dill of the Museum of the State University of Iowa spoke of the new museum building erected by the University of Iowa at a cost of \$350,000, with an additional expenditure of \$90,000 for cases. He also reported the erection of a new museum building at Coe College in Cedar Rapids, Iowa, and of the appropriation of \$350,000 or \$400,000 for a museum building at the University of Indiana. Professor Dill brought these facts to the attention of the Association as evidence of the interest in university museums.

Secretary Rea spoke of the very great satisfaction with which he had learned from Professor Dill of some of these recent developments among college museums. He expressed the hope that these incidents might be but the beginning of a new era for college museums, but questioned seriously whether the expenditure of such large sums

of money for museum purposes would appeal to college authorities except in sporadic instances. He referred to his discouraging experiences in the preparation of the Directory of American Museums, when it was found that 38 per cent of the 600 museums of the country were college museums and that almost none of them reported any evidence of active work. He suggested, however, that the influence of the very successful public museums would inevitably stimulate the development of at least some of the college museums.

Prof. Junius Henderson of the University of Colorado Museum described the many demands upon university authorities and the difficulty of devoting large amounts of money to museum departments. He felt, however, that university authorities will be glad to appropriate moderate sums, as the University of Colorado is doing, to the maintenance of museums which shall provide students with study and research material and which shall be able to furnish information to the general public. He stated that the museum of the University of Colorado is performing an important service in answering inquiries not only from people of Colorado but of neighboring states.

President Farrington suggested that the growth of public museums may be responsible for some of the decline of college museums where both exist in the same community and that the absence of this competition in Iowa and Colorado may explain their successful development.

Professor Dill believes that the trouble has come chiefly from the lack of available men who could properly prepare the material in the college museums.

The meeting then adjourned.

SESSION OF WEDNESDAY, JULY 7

Morning

The meeting was called to order by President Farrington at 10 a.m. in the Oakland Public Museum after the members had devoted an hour to inspection of the collections.

Mr. Charles S. Greene, secretary of the library board which governs the Oakland Museum, gave an address of welcome. Mr. Greene discussed briefly the organization of the Oakland Museum. He expressed his pleasure and satisfaction in welcoming the Association, and paid a high tribute to the late curator of the museum, Mr. C. P. Wilcomb, whose labor and ability have made the museum what it

is today and whose sudden death makes this a sad as well as a glad occasion.

Mr. Higgins, secretary to Mayor John L. Davies, extended a cordial welcome to the Association on behalf of the city of Oakland and expressed the mayor's regret of his inability to be present in person.

Mr. Henry R. Howland of the Buffalo Society of Natural Sciences responded on behalf of the Association to these addresses of welcome. Mr. Howland expressed the pleasure and profit which members of the Association were receiving from their meeting in the West and paid a heartfelt tribute to Mr. Wilcomb.

Mr. C. P. Wilcomb, late curator of the Oakland Public Museum, had begun before his death the preparation of a paper which he expected to read at this meeting. The assistant curator, Mrs. D. W. de Veer, presented the following paper in which she had incorporated much of Mr. Wilcomb's material, endeavoring to follow his outline in general, but adding a more explicit account of his share in the museum's development:

FOUNDING AND DEVELOPMENT OF THE OAKLAND PUBLIC MUSEUM

While the history of the Oakland Public Museum does not differ in essentials from that of any similar institution, its development has been influenced by local conditions that may lend some interest to an account of its founding and growth.

The museum is strictly municipal, being supported by an appropriation made by the City Council and administered by the board of directors of the Oakland Free Library. This board exercises general supervision over the institution, but its affairs are directed in detail by the curator, who is appointed by the library directors, and is responsible to them.

In order to produce a keener appreciation of the environment under which the museum has been developed, I desire to quote a few facts about the city of Oakland.

Eight years ago the city had a population of 116,000 and an area of 16.61 square miles. Now it has a population of 215,000 and an area of 61 square miles, stretching along the bay shore for five and one-half miles and from the tidewater to the crest of the hill range that limits our view to the north and east. Eight years ago there were in the public schools 276 teachers and 14,240 pupils. Now there

are 47 elementary schools with 693 teachers and 24,351 pupils. During these eight years, municipal progress has kept pace with municipal growth. Miles upon miles of streets and boulevards have been constructed; large and strictly modern school houses have been built; a two million dollar city hall, and a million dollar auditorium have been erected; a magnificent system of city parks and playgrounds developed; and a deep-water harbor project, deemed visionary by most people, successfully carried out.

On the wave of this wonderful municipal progress the museum was carried along as one of the lesser issues, but one dear to the heart of the mayor and loyally supported by those who held its welfare under their control.

Knowing the temperament that predominates in a community which is progressing by leaps and bounds along material lines, you will all realize that, with so many important projects demanding time and thought and money, it is not strange that the city could not set apart large sums to build a museum. Indeed it is a matter of congratulation that it was able to appropriate from \$8000 to \$12,000 each year for the support of one.

Although the idea of a museum had been considered and advocated for some time by private individuals and by Mayor Frank K. Mott, it was not until 1907 that any material actually came into possession of the city. When the Walter E. Bryant collection of ornithology and oology was offered for sale, Miss Bertha Chapman, then nature study teacher in the Oakland schools, made a determined effort to save the material to California and to secure it for Oakland. She enlisted the cooperation of E. P. Flint, William Hall, and others of similar interests, and a fund was raised to purchase the collection. It was presented to the city by the subscribers, and by his acceptance of the gift Mayor Mott laid the foundation of the museum and definitely committed the administration to its support.

Soon after, the John Daggett collection of ethnological material was also purchased and presented to the city. This collection represented practically every phase of culture of the Klamath River Indians of Northwestern California, and was quite well known, having been exhibited at the Columbian Exposition in 1893, and been on display as a loan for many years in the Golden Gate Park Museum in San Francisco.

About that time it became known to Mayor Mott that Charles P. Wilcomb was working among the Miwok and Pomo tribes, bring-

ing together material illustrating the culture of those areas for a private museum in the East. The mayor immediately undertook negotiations to secure the release of this collection by the owner, and finally purchased it for Oakland.

An agreement was also made whereby, during the late summer and autumn of 1908, Mr. Wilcomb made an extended trip to the eastern states to assemble a collection illustrating Colonial life, of such nature that type rooms could be fitted up, and this material was brought back early in 1909.

The possession of these various collections, some of them rather famous locally, was of sufficient weight to influence the City Council to assume some responsibility for the museum and to make an appropriation for its maintenance. By charter amendment of March, 1909, the institution was placed under the direction of the board of directors of the Oakland Free Library, which assumed control in April, 1909.

Its first act was to elect a curator, choosing for that place Charles P. Wilcomb, who was already well known to them as an able and enthusiastic collector. It next accepted the use of the Josiah Stanford Mansion on the shore of Lake Merritt, which had been generously set apart by the park department as a repository for the collections. It was decided to remodel this residence and fit it up for exhibition purposes, pending the time when a modern museum building could be erected.

From April, 1909, to October, 1910, was given to the work of organization. The building was remodeled and equipped, and the collections cataloged and prepared for installation. In the autumn of 1909 Mr. Wilcomb undertook another trip to the East to collect supplementary Colonial material, and as much historical and natural history material as possible; for it had been decided to make the museum general in its character and sufficiently broad in its scope to lay a foundation for future development along several lines, also to prepare it to enter at once upon a career of activity in educational work.

On the evening of October 21, 1910, the museum was thrown open to the view of invited guests at a reception given by the directors of the library, and on October 22 it was opened permanently to the public.

On the opening day there were fourteen exhibition rooms and about twelve thousand specimens. The Colonial exhibit and the

department of California ethnology were the best developed. There was one creditable collection of African ethnology, one room devoted to the Pacific Islands, one to American history in general, a small but well-chosen natural history department, and a children's room.

During the whole period of organization and installation, efforts were made to follow the best modern methods to make the museum as interesting and attractive as was possible within its resources. Realizing that a small museum cannot be of great value for research work, but must be devoted to popular interest, the founders kept this purpose constantly in view. The exhibits are arranged with scientific accuracy but as artistically as possible, with the aim of holding the attention of even the careless observer, and are labeled with descriptive matter, which is always given most careful thought to make it at the same time scientifically correct and simple in statement.

Such was our museum of five years ago, and such, on a somewhat larger scale, it is today. While we have more than trebled our collection and by the addition of an annex have gained much more space, yet we still occupy the same old residence, and still devote our energies to making the collections attractive and useful to the public.

During these five years the work of the museum has been determined by two general purposes; to build up the collections, and to make for the institution a firmer place in the favor of the community. The collections have been augmented by the generosity of many donors, who have given altogether over 19,000 specimens to the museum. But, as every museum worker knows, donations cannot be depended upon to build up a well-balanced collection, and fortunately we have been able to do some systematic collecting. This has been altogether of American antiquarian and Californian ethnological material, and these departments have been greatly strengthened. Once or twice every year Mr. Wilcomb has made short expeditions into the interior of the state in quest of ethnological material and has collected from four cultural areas, the Miwok, Pomo, Wintun, and Maidu. The last named is now the best represented tribe of any in our collections, and it was the source of considerable gratification to Mr. Wilcomb that such was the case, because the Maidu area has been less thoroughly studied than many others and it seems quite probable that our material from there may sometime be of distinct scientific value. Mr. Wilcomb was very fortunate also in securing first-hand information regarding the primitive life of these

people by interviewing many old men and women, and has been present at some of the ceremonials of ancient tribal custom.

It was to him a satisfaction, also, to build up here, at the most western point of American civilization, a worthy exhibit illustrating American colonial life, because the history and traditions of the West are so different from those of the East that every possible source of knowledge is valuable in enabling one section to sympathize with and to comprehend the life of the other.

The results of our second line of activity, that of entering into the life and needs of the community, cannot be told so simply, nor so exactly, and yet they have been none the less real. Many visitors have been entertained in the exhibition rooms; we have entered into intimate relations with the schools in the instructing of children, and the museum is cooperating with certain scientific organizations, so that we hope in time to make it a center for the intellectual and cultural life of the community.

Visitors to the museum number from four thousand to six thousand per month, which shows a fair public interest, and we are convinced that most visitors are pleased with the exhibits and are in sympathy with the purposes of the institution.

With the public schools we have worked cooperatively from the first. A few weeks before the formal opening, the directors appointed as museum lecturer, a member of the staff who had had opportunity to become familiar with the collections. Soon after the opening, an invitation was issued to the school department to send classes for talks on subjects correlated with the regular course of study and illustrated by museum specimens. A few brave teachers from a nearby school responded by bringing the children and testing the possibilities of the plan.

At first the classes were taken into the exhibition rooms, but when from two to four hours a day were given to the lecture work, the need of more adequate facilities was felt. Two years ago an annex to the building was constructed, containing a lecture room with seating capacity of one hundred and fifty and an equipment for stereopticon work. This phase of our activity has grown considerably and has been fairly successful. In the five years about 19,000 children have been brought to the museum for formal lectures. By special arrangement, also, the lecturer visits some of the more distant schools, and in that way 16,000 more children have been instructed concerning the museum exhibits. However, as this

work is wholly voluntary on the part of the teachers and principals, and as Oakland is a city of rather magnificent distances considering its population, we realize that only a small percentage of the school children are reached.

Many children come informally to the museum at the direction or suggestion of their teachers to study certain exhibits, and many have learned to bring specimens for identification or to ask for instruction from the museum staff. This phase of educational work is very little developed, however, because the staff is small and we have no members sufficiently well informed, who have the time to build up a docent service or general information department.

The lecture work has been extended to outside organizations, chiefly women's clubs, and the lecturer has spoken before many hundreds of people on various subjects illustrated by museum specimens.

The loan of exhibits has been encouraged in so far as our duplicate material and our time warranted. The schools demand chiefly natural history specimens and we have supplied them with about 1200 articles altogether. Small exhibits are often arranged for the Free Library or its branches, and material has sometimes been in demand for other uses, such as dramatic productions or pageants of educational nature. For such, we have loaned hundreds of objects, almost invariably from the Colonial or Indian collections.

Since its first organization the museum has added two small departments, one of California history and one a continuous exhibit of fresh blooming wild flowers.

The California history material is of value in educational work, for we have many calls for lectures on the early history of the state and of Oakland. And the fact that this was a feature of the museum undoubtedly attracted to the place persons interested in that line of research, and decided the question of making the museum the center of a recently organized local historical society. The society will give much attention to collecting and already has some material which will be displayed in the museum.

In January, 1912, a small exhibit of native California flowers was opened and has been maintained continuously ever since. At first it consisted of about twenty species displayed on a table near the exit door. More species were secured as the spring advanced, and in three months we were showing about 100, a number which fully occupied the space available for display. When an annex was added

to the building, in 1913, one small room with skylight was set apart for this exhibit, and the specimens are arranged in glass or plain clay pottery receptacles on tables with graduated steps, so that 200 or even 250 kinds can be shown at once. They are labeled with scientific names and items of popular information, and the whole exhibit is becoming a resource for teachers of nature study in the public schools.

The flowers are found in the country immediately surrounding Oakland and within reach of its car lines. At first the assistant curator, who had some botanical knowledge, collected the specimens, but as the exhibit proved popular and increased in volume she was unable to give sufficient time to maintain it, and other members of the staff were trained to collect. Now one young man takes a half-day once or twice a week to make a trip with motorcycle and brings in whatever is in season. Through the summer months people who are in the Sierras or elsewhere on vacations often send material, which is a gratifying indication of public interest.

The exhibition of wild flowers was also the cause of bringing to the museum some scientists who had long desired to have a state botanical organization. When it was found that the museum was ready to cooperate and able to furnish a meeting place, the California Botanical Society was organized here. That was in April, 1913, and the society now has a membership of two hundred and fifty, including the foremost botanists of the state. It has regular meetings for lectures and discussions, and conducts many field excursions. It has founded a library and herbarium of its own recently, and is to issue a periodical devoted to the science of botany. Such an organization has a very wide field in California because the native and introduced plant life is so varied. The ecological formations are almost numberless, embracing all gradations from the desert of the Southeast to the unique areas of the giant Redwoods, and from the warm coast areas of the Southwest to the Alpine zones of the Sierras, and very few of these have been thoroughly studied.

The society has held several special exhibitions at the museum and is now so well established as to promise a continued activity, both in lines of popular interest and in researches of scientific nature.

To attract to the museum persons and organizations definitely interested in some line of research has been one of Mr. Wilcomb's aims, because he knew how broadly and mutually helpful such associations would be. And he hoped in time to make the institution a center for the best in educational activity of the community. Since

our building is now so well filled that we have practically no more exhibition space, Mr. Wilcomb had planned to divert a part of the energies of the staff to developing the extension work in the public schools, and for this he had been collecting natural history and industrial material during the past year. He also planned to continue his intensive studies of primitive civilization of the California Indians, and hoped that he might prepare some reports of these studies for publication.

In 1912, Mr. Wilcomb spent five months studying the museums of the eastern United States and northern and middle Europe, in anticipation of the time when Oakland should be able to erect and equip a modern museum building. He collected a series of pictures representing upward of 200 museum buildings of the world and a great mass of classified data which embraces practically everything of special significance concerning modern museum methods in building, equipment, and organization. He also studied carefully the various policies pursued in different sections of the United States and Europe respecting the use of museum resources for the pleasure and profit of the public. It was his earnest desire to incorporate what seemed best and most practicable of all these methods and policies in the new museum which has already been advocated and for which tentative plans have been drawn. To the close associates who alone had glimpses of his deeper purposes, the knowledge that the full period came to his work before he realized this one ideal of a beautiful new museum for Oakland is fraught with deepest pain.

In conclusion, I desire to add a statement of the fact, so well known to all of you who were acquainted with our late curator and his work, that whatever the Oakland Public Museum is today, or may be in the future, is due to his efforts. His thorough knowledge of museum organization, his sound judgment in selecting material, and his artistic talent for effective display contributed to found an institution that won immediate favor in all circles.

A man of the highest ideals, he was never satisfied with less than the best that circumstances and resources allowed; his constant aim was to improve each department as opportunity offered, and the museum was originally founded so broadly that there are many avenues along which it may be expanded. To whomever it is given to follow him, is the honor as well as the duty of working out to its most perfect whole what he planned with so sane a judgment and established on so sound a basis.

Mrs. de Veer's paper was followed by a memorial account of Mr. Wilcomb, given by Dr. Walter Hough, curator of ethnology in the Smithsonian Institution. Dr. Hough reviewed his long acquaintance with Mr. Wilcomb and paid a warm tribute to his modesty and ability. He considered Mr. Wilcomb a born collector and spoke most highly of the lines on which the Oakland Museum has developed under his curatorship.

The President then called upon the Secretary to review the history and purposes of the Association for the benefit of western members who have not had an opportunity of keeping in close touch with its development.

Secretary Rea apologized for the necessity of reiterating matters which have become an old story to those who have attended all the meetings of the Association, but expressed his conviction that, inasmuch as these matters refer to problems in the policy of the Association which have not yet been entirely solved, it is necessary that they continue to be presented, especially at this meeting in a part of the country which has hitherto not been intimately concerned in them. He pointed out that it is but natural that the officers of the Association should feel the pressure of these problems more keenly than other members, since the burden of making the conventions successful and of providing for the general conduct of the work of the Association falls chiefly upon the officers. He then reviewed the history of the Association, showing that it originated in a desire for closer personal contact among museum workers, that its meetings from the first have been most successful in this respect; and that the desire to publish the proceedings as a matter of permanent record and in order to make them accessible to a larger circle had introduced a serious financial problem. He called attention to the fact that only a small proportion of the members can attend all the meetings and that a national association should find means of rendering broad service to all museums in the country. In order to make it possible to outline a proper program, the Association undertook the publication of the Directory of American Museums, which for the first time made accessible general information as to the collections and activities of approximately six hundred museums. The problems of the Association since the publication of the Directory in 1910 have been chiefly concerned with the endeavor to assist in the solution of the broad problems of museum development made evident by the Directory. He explained that the ability of the Association to carry out effectively

the many suggestions made at the meetings regarding desirable activities has been largely restricted by the inadequate funds available, emphasizing at the same time the imperative necessity of finding ways of accomplishing these objects. He showed how large is the field of common interest among museums of all kinds and how great is the need of free interchange of ideas among them all. In closing, he expressed his conviction that the American Association of Museums can fulfill its function only by becoming a clearing house of museum knowledge, museum methods, and museum practice, and by extending its service in immediately practical ways to all kinds of museums in all parts of the country, to the end that the Association shall become indispensable to all museum workers, thus assuring itself of a membership large enough to defray the expenses of its work.

The Association then proceeded to the election of officers, with the following result: .

President (elected in 1914; term expires in 1916):

Oliver C. Farrington, Curator of Geology, Field Museum of Natural History, Chicago, Ill.

Vice-President:

Henry R. Howland, Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, S. C.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

Councillors, 1915-1918:

Benjamin Ives Gilman, Secretary, Museum of Fine Arts, Boston, Mass.

Herbert E. Sargent, Director, Kent Scientific Museum, Grand Rapids, Mich.

Members of Commission for Museum Cooperation:

George F. Kunz, Honorary Curator of Gems, American Museum of Natural History, New York City.

Edward K. Putnam, Acting Director, Davenport Academy of Sciences, Davenport, Iowa.

The following resolution was then unanimously adopted and it was directed that it be referred to the Council with the request that it be forwarded to the proper authorities to secure action:

WHEREAS, By the resolution of the Hague Convention of 1907 the signatory Powers agreed (Art. 56) that—

All seizure of, destruction or wilful damage done to institutions dedicated to religion, charity and education, the arts and sciences, historic monuments, and works of art and science, is forbidden, and should be made the subject of legal proceedings.

Therefore be it Resolved, That the American Association of Museums urges strict adherence on the part of all the signatory Powers to these pledges in order that the priceless treasures thus specified, which are a common human heritage and the destruction of which can serve no permanent useful purpose, may be preserved to the lasting enjoyment and benefit of mankind and that the Association appeals to the nations now at war to avoid all actions that will make more difficult at the close of the war, the restoration of friendly relations and cooperation among museums and art galleries.

The subject of the next place of meeting was then taken up and the Association voted to meet in the city of Washington about the 15th of May, 1916. Attention was called to the fact that the American Federation of Arts will also meet in Washington at this time and it was suggested that arrangements be made for as close cooperation between these two organizations as possible.

The Association then adjourned to the Hotel Oakland, where it was handsomely entertained at a luncheon tendered by the City Council of Oakland. At the conclusion of the luncheon ex-Mayor Frank K. Mott gave a most interesting address in which he described his first acquaintance with Mr. Wilcomb and reviewed the origin and development of the Oakland Public Museum and its relations with the city, giving his audience a vivid impression of his broad conception of the value of museums and of his strong personal interest in the Oakland Museum.

After luncheon the Association was given an automobile trip about Oakland and vicinity, stopping at the Piedmont Art Gallery, where the members were shown through the galleries by Mr. Frank C. Havens and by the curator of the Museum, Mr. Richard L. Parting-

ton. The party was then taken to the University of California and after walking through the grounds and visiting the Greek Theater, gathered at the Museum of the Department of Anthropology where an inspection was made of the collections. Prof. T. T. Waterman gave a demonstration of Ishi, the interesting Indian who is the sole survivor of a tribe which has never been contaminated by white influence. Ishi demonstrated his method of fire-making and of chipping arrow points. The Association then inspected the Museum of Vertebrate Zoology under the guidance of Dr. Joseph Grinnell and Dr. Walter P. Taylor, after which it was entertained at dinner at the Faculty Club.

SESSION OF WEDNESDAY, JULY 7

Evening

The meeting was called to order in California Hall at the University of California by President Farrington at 8 p.m.

The following paper was presented by Prof. Homer R. Dill, director of the museum exhibit of vertebrates at the University of Iowa:

BUILDING AN EDUCATIONAL MUSEUM AS A FUNCTION OF THE UNIVERSITY

It is within the memory of some of our older men that the greatest museums of this country had their birth, and during the earlier stages of their development little was done aside from filling in the systematic series, which was primarily for the use of the scientist in comparing species, one with another, and meant nothing to the public but dust, monotony, and terrible names.

The idea of an artistic educational museum did not receive much attention from the men who first started these zoological collections as their minds were devoted to research work and hence they failed to see the value of the artistic groups and descriptive labels that interest and educate the masses of people. It is for this reason that the museums were very slow in adopting and developing the habitat groups. It is natural that a man who devotes his life to the intensive study of a subject loses interest in other subjects. Darwin lost his appreciation for music and other fine arts although he was said to have been very fond of them in his younger days.

In many of our educational institutions the zoological museum

falls to the care of the professor of zoology who, as a rule, has more than he can do to conduct his classes and carry out his routine work. It is taken for granted that his knowledge of animal life must necessarily qualify him to conduct a museum. We have but to visit the various museums connected with colleges and universities to be convinced that this is a decided mistake.

From the men who know and would really like to see something worth while we get this inquiry: "Where can we find an educated man to do our museum work?" The reply has always been: "The few who can do this work are not available." And then the question comes: "Where are the young men? Why are they not going into this work?" Right here is a matter for the serious consideration of museum directors. It is they who must present the opportunities and attractions of this work and assist and encourage the young men to qualify for this profession.

I am told of a young man who was very much interested in mounting birds and mammals; he really loved the work for the art in it. He loved the study of the live animals in their natural haunts, but most of all, he loved to faithfully reproduce these things as he saw them. This young man spent many hours in the woods and fields when other boys of his age were pleasure-seeking in other ways. His mounted specimens were superior to anything of the kind that had been done in the place at that time; they were exhibited at a county fair where they attracted the attention of a museum curator who later called at the young man's home to see him.

The boy's parents were worried because he was spending so much of his time with this work, and so talked with the caller in regard to the matter. His reply was that the work might be the means of interesting the boy in zoology, but that the preparing of zoological specimens and exhibits was beneath the dignity of a man of science. Thus the young man's hopes were crushed and, in lieu of mounting animals, he painted them, in time becoming eminent as a painter of animal life. His paintings have convinced many of us that, had he applied his rare ability to the work he first chose, the museums would have benefited thereby. He was a born scientific observer and an artist. I believe that he could have produced museum exhibits second to none in the world.

Another case was called to my attention by a member of this Association who is deeply interested in developing the educational museum. A college instructor who had been doing some good work

in zoology came to this man for advice relative to taking up museum work as a profession. After carefully considering the matter it was decided that the man should go to one of our larger museums and consult with the curator in regard to the courses he had better take to fit him for museum work.

It was nearly two years later that my friend found this man teaching German in an eastern college. He asked him why he did not stay with the museum and his reply was that he did not see how the work the curator had laid out for him could ever accomplish his purpose. "And pray, what was the work?" inquired his would-be benefactor. "The study of the intestinal parasites of certain South African ants," was the angry reply.

Ladies and gentlemen, do not misunderstand me. It is not my intention to criticise. It is rather in a spirit of helpfulness that I call your attention to the very grave danger of over-specialization. We must not lose sight of one of the valuable functions of the museum, namely, the education of the general public by artistically prepared groups that are at the same time scientifically accurate. Are we not in danger of losing entirely the museum as a strictly scientific institution? In these days of popular interest in the museums there are men who have money to devote to popular artistic museums, and I believe that unless some of our scientific men take a broader view of the scope of the museum, and make a place for the artistic educational work and the trained worker in this field, such exhibits will find their way to the front not as accessories of research collections, but rather as popular zoological art museums where the scientist is an accessory used rather as a handy man to whom doubtful specimens may be referred for identification. This is not a dream of fancy, but a fact that can be proven by two marked cases, of which I have knowledge.

Let us consider a typical museum of a few years ago—not a hypothetical case, but one that is genuine. The curator by years of hard work assembled the skins of many birds and mammals from far and near. He took one of the mammal skins to the taxidermist's laboratory and showed it with pride, intrusting him to mount it nicely as it was collected in a distant land many years ago by the curator himself.

Upon examination the taxidermist found that the skin was badly grease-burned, but he dared not say a word as the skin was prepared by the curator. The taxidermist had never seen this animal alive

and so did not know that the back had a hump on it. Had it a long neck or a short one? Were the eyes yellow or red? Did it step flat on its foot or on its toes? The curator thought it stood on its toes but was not sure, and the other points he could not remember.

The taxidermist was a laboring man who had picked up the little he knew partly in the old world and to some extent in this country. He proceeded to tan the skin. He did not know that the tan liquor he used for everything turns some kinds of brown hair to a light red tint. His methods were all secret; visitors were never allowed in the work room, the door of which was always locked. He was a peculiar man working at a strange trade more or less surrounded by mystery. He might tell you of some wonderful method he had that rendered his specimens immune to all attacks of insects, and to the ravages of time and age.

After a while the specimen was finished. At intervals the curator visited the workroom and told him how the beast looked when alive twenty years ago as he remembered it. The curator was satisfied, and soon after this animal was mounted a visitor asked to see it as he had recently collected one in the same locality and wished to compare the two.

"This animal," remarked the visitor, "is not the same color as mine. My specimen is dark brown, while yours is reddish. The contour of the back is entirely different as you will see by the photograph I have made. The eyes are brown while these are yellow. Furthermore, my animal stepped flat on its foot as I observed by its tracks in the mud, while yours is standing on its toes, and its neck was much shorter and its back had a decided hump. The toenails are about the same but otherwise there is little resemblance. I wonder if this is the same species. Have you the skull? Yes, the skull is here and proves it to be the same species, but not recognizable in the form of a mounted specimen."

Who is to blame? Not the taxidermist for he did the best he knew. Is it the curator? Is a specimen that is so unlike the real animal of any scientific value, and is it even interesting to look at? It is cracking about the nose and eyes and one ear is splitting. It must soon go to the attic and eventually to the dump, although it is no longer possible to get another specimen of this species as it has become very rare. The curator becomes alarmed at the loss of this valuable specimen and looks over his collection. Now that his attention is called to the matter, he finds that many of the skins are in the same

condition and at last he consults an expert who informs him that the major part of his collection is without value and that it is only a matter of a few years before it will all have to be discarded. A few skins, however, may be saved if placed in the hands of an expert at once. This collection of skins might be worth thousands of dollars had it been properly preserved.

It is hard for this man to lose the collection of a lifetime; it is hard for him to realize that his museum is old-fashioned and that his exhibits provoke a smile from those who are up-to-date, but all this is inevitable.

Let us look further into the case of the curator. He has written many papers that have been real contributions to science. It is evident that the major part of his life has been devoted to this work and that the museum is a sort of hobby. Where did he learn to prepare skins and what experience has he in museum work? He frankly admits that he knows nothing about modern methods. As a boy he called himself a taxidermist, having picked up a little information from books on the subject. He depended largely on poisoning the skins heavily and letting it go at that.

Many of us are familiar with skins that have been prepared in this manner, permeated with grease, saturated with poison, penetrated by dermestes and incrustated in a residue of salt, alum, and arsenic.

Contrast this with the work of a trained man who has seriously contemplated the study of museum work. He goes into the field prepared to make every possible note relative to the animal's appearance and all its habits. Photographs are made of the animal alive, if possible, and in every case before it is skinned. A plaster cast of the face, and sometimes of the whole side of the animal, is made; many measurements are taken; and color copies are secured of the eyes and other parts that fade after death. A painter accompanies him to make a painting of the actual place where the animal lived. The plant life, the soil, and the rocks are carefully noted, and specimens are preserved for reproduction in the group.

All of the work is done by modern methods which are the result of careful scientific study. The skins are degreased and preserved so that they may be tanned without losing any of their original value in color, texture, or lasting qualities. Local conditions must be met and often tax the skill of the expert to the utmost. For example: My friend Mr. Carl Akeley states that the hairless skins of some of the African mammals were so affected by the insects and

changes of temperature that he was obliged to preserve them in a dry state after removing the grease and excess of tissue. The skins were later enveloped in strips of cloth dipped in melted beeswax secured from the wild bees that are abundant there. After being sealed airtight they were packed in boxes. If not treated by this process a portion of the outer surface of the skin peeled off and much of the original character was lost thereby.

After all of the necessary material is collected and cared for the man in charge proceeds with the design of his group, which, in some cases, is modeled in miniature. In making up the group and posing the specimens he does not simply put the animals in natural positions, for they might be put into a thousand different positions, all of which would be natural and yet not be pleasing. It is therefore a matter of choosing an artistic pose for the specimens and composing a pleasing group that makes the work a success.

When this man mounts his specimens he knows just what to do. Every little detail has been scrutinized. There is not the slightest thing peculiar to the animal with which he has not become familiar or has at hand in his notes. Who would presume to tell this man how this specimen should look?

When all is finished the animals lack only movement to make them animated. The plants and other accessories are beyond criticism, and best of all the work is permanent—a beautiful work of art that will last for hundreds of years to delight and educate the people of many generations. It will remain long after the executor has gone to his reward, and these species of animals have passed forever from the earth.

What does the educational museum mean to the university? By the educational museum I do not refer to the accumulations of material that are to be found in nearly all of our colleges where the scientists have dumped the collections they have made on their various trips, together with the gifts from friends of the institution. If you will visit the museum at the State University of Iowa I think I can show you what it means. I can show you what was once a typical old-fashioned museum which served its purpose in those bygone days, still retaining enough of the old collection and groups to contrast glaringly with the modern exhibits with which the old material is rapidly being replaced.

When our Laysan Island Exhibit was opened to the public last June over two thousand people visited it in less than two days. If

you chance to be in the museum at any hour of the day you will see groups of people looking at the exhibits, reading the descriptive labels, and discussing what they see. Who are these people? Some of them are students, some are farmers, others are members of nature clubs from neighboring towns visiting the place in a body, and still others are mothers with their children. Here are all kinds of people! Students, men of science, and people who would never read a book or go to a lecture are here learning something. It has been said that an open book is a challenge and that a picture is an assault. Here we have something that is still more.

There is not a department in the university that begins to reach and educate the people as does this type of museum. It is also a great advertising medium for the institution, being one of the tangible things that can be shown to visitors. Since the opening of our Cyclorama, special excursions from different cities have come to see it.

About twenty years ago I thought I saw a new field of opportunity for young men. Since that time I have worked with this vision in view and now, ladies and gentlemen, I shall announce that there is a college course designed to fit men for museum work. Last June we graduated from the Liberal Arts College of the State University of Iowa, what I believe to be the first man in the world who was specially trained in college for museum building.

The first year of this course is devoted largely to the usual fundamental college work; free-hand drawing, modeling, and museum laboratory work are supplementals. After the student has done the required amount of fundamental work he is allowed to major in the studies that seem most suitable for one who is to make the building of museums a life work. He has a large practical experience in the museum laboratory where all kinds of specimens are mounted. New methods are continually being worked out for his benefit. He is taught to handle old and difficult skins. He may take up work in chemistry, modeling, painting, drawing, and in fact any study that is offered by a large university. Eminent men on these various subjects are always willing to aid him in any way possible. His work in fine arts trains his eye to see things as they are and to reproduce them faithfully. His chemistry is useful in tanning and preserving skins.

The experience I have had with the work so far encourages me to believe that a young man who has faithfully pursued this course for four years, graduates from college with a well-trained mind, and with



SECTION OF LAYSAN ISLAND CYCLORAMA REPRESENTING SOOTY-BACKED TERN ROOKERY. THIS SECTION IS ABOUT ONE-TENTH OF THE ENTIRE CYCLORAMA WHICH IS 138 FEET LONG AND 12 FEET HIGH. GROUP COMPOSED AND EXECUTED FOR THE STATE UNIVERSITY OF IOWA MUSEUM BY PROFESSOR HOMER

R. DILL. BACKGROUND PAINTED BY MR. C. A. CORWIN

an appreciation of art, literature, and science. He is trained to do something worth while. He knows the work of museum building from the bottom up. The methods this man has learned are such that he can direct an assistant to perform the major part of the manual work while he is free to assemble, plan, and compose it.

Think of the value of such a man to any institution where there are zoological specimens to be collected and cared for! Think of the exquisitely prepared skins filed away that may be kept indefinitely, with all the proper data, and the artistically mounted groups that take the places of those old semblances to nature! What a relief to the professor and the curator who wish to devote their time to special lines of work!

Changes cause some disturbances in an established routine. Tearing down an old building must disturb the owl that nests in the attic; perhaps destroy a beautiful ivy that has embraced its grimy stones for many years. But what is to come? A fine new structure with its modern improvements; its elevators to replace the hard winding stairs; its large windows with plenty of light and air. The owl will find a new site for its nest and the ivy will send out new vines and soon all will agree that it is for the best.

We have before us a man of a new calling; a man whose work is as dignified as that of a doctor or a professor. Ought we to call this man a taxidermist and give him a little dingy room in the basement and expect him to fill a position that previously has been filled by a laboring man? It is the older museums that I ask to make a place for these men. The new museums will, I think, be looking for men of this class. We should remember that these men are scientific; that the work done in the field and the observations made by them will be contributions to science.

The smaller museums have insisted that they do not have enough work to keep one man busy, and that they cannot afford to pay an adequate salary for such services. Dr. B. H. Bailey has suggested that where a number of smaller museums are in close proximity they may employ one trained man who can oversee the work and have at each place a non-technical assistant who shall work under his direction. By this arrangement excellent results may be obtained at a minimum cost. There is no danger of over-crowding the field at present. We now have a number of places waiting for our young men. We do not expect at Iowa to turn these men out by the hundred or by the dozen. Out of an entering class of thirty in this department,

thirteen were retained as possible; the remainder were advised to take work in other departments better suited to their abilities. At the close of the year we find seven whose work is promising; of the seven two are not able to return for their work next year; the remaining five will probably graduate three years from now; two years hence three men will graduate if they continue to do as they have been doing.

Thus we have the educational museum as a function of the university and the university as a builder of educational museums.

Secretary Rea.—"I have listened with the greatest interest to Professor Dill's account of his work in the training of museum curators, for I am hopeful that it may contribute to the solution of the difficult problem of college museum development. If we can have a section where college museums are numerous it seems to me that much may be done to revive interest in the college museums and to justify college authorities in supporting such institutions."

Miss Margaret T. Jackson (Minneapolis Institute of Arts).—"I was particularly interested in hearing what Professor Dill had to say because I have been so much interested in the work that is being done in Wellesley College in the training of art museum assistants. This course has been given at Wellesley for three or four years and has graduated several students eminently fitted for positions. For some reason, however, our museums do not seem ready to cooperate with the institution which is giving this very necessary training, and I shall be interested to know whether Professor Dill will be able to find places for his students after they are trained."

Professor Dill.—"Up to the present time we have received applications for more men than we have been able to supply. At least three institutions are on the waiting list and are ready to take young men who have completed the course at Iowa, at a salary of not less than \$1200 at the start. I have two of these propositions in writing and so have been able definitely to promise my students positions if they make good. I am chiefly concerned with making a success of my course and care more about getting results than about having a large number of students. I encourage only those to continue who give evidence of real ability."

Mr. Henry L. Ward (Milwaukee Public Museum).—"It seems to me that the practicability of such a school depends almost entirely

on the selection the teacher is able to exercise. Many students who meet the requirements for graduation from schools of law have no conspicuous ability to practise law; so if all who apply for admission to Professor Dill's course are allowed to take it, many of indifferent ability will have to be graduated. The prestige of the school will depend, however, upon the number of good men it trains. I would like to know whether Professor Dill can decide who shall and who shall not take his course."

Professor Dill.—"I never tell a student that he cannot take my work. I simply advise him not to take it. I have never had any difficulty so far in turning aside any student who does not impress me as being fitted for the work. We have, however, the privilege of limiting our classes and thus can select the best students. I endeavor to make such a selection both for the success of my work and as a matter of fairness to the student."

Dr. William T. Brigham of the Bishop Museum in Honolulu expressed his preference for taking untrained assistants and developing them along the lines of his own needs and of their special ability. He cited a number of instances in which he had taught untrained men to do a high grade of technical work, and questioned whether any training school is either necessary or desirable. In the discussion which ensued a number of speakers expressed a very keen sense of the need for trained assistants and the feeling that only in unusual instances can museums train them to advantage.

Prof. Junius T. Henderson, curator of the University of Colorado Museum, then presented the following paper:

A PIONEER VENTURE IN HABITAT GROUPING

Those who visited the Centennial Exposition in Philadelphia in 1876 may recall the exhibit of Colorado birds and mammals installed in the Kansas-Colorado building. The greater part of the material was mounted in the ordinary way and installed on shelves in ordinary cabinets, and would not in itself have attracted much attention. The distinctive feature of the exhibit was a mountain in miniature, with a small stream rushing down a canyon and a lake nestling at the base of the mountain. The mounted animals were arranged on the mountain slope and adjacent valley at altitudes corresponding in a general way with their habitats—mountain sheep and ptarmigan

at the top, bison and antelope on the plains, and so on. On a card suspended near the entrance to a cave were printed the words 'Woman's Work.'

The exhibit would doubtless look crude indeed if it could be directly compared now with some of the magnificent habitat groups in the best modern museums of America, groups which are the result of accumulated knowledge of generations of skilled preparators and made possible by large scientific and financial resources. But considering the time and circumstances under which the work was done, this pioneer effort was well worthy of the high commendation it received, not only from the general public, but also from naturalists whose opinions command high respect. The collection was for some time displayed in rooms over an old store at the corner of Twelfth and Pearl Streets, in Boulder, Colorado. There it was visited by several notables, whose impressions are preserved for us in the public press of the time. Among those representing the layman's point of view was Helen Hunt Jackson, who wrote an interesting account of it for the *New York Independent*, from which the following paragraph is quoted:

The first thing upon which my eyes fell was a black-and-tan terrier, lying on a mat. Not until after a second or two did the strange stillness of the creature suggest to me that it was not alive. Even after I had stood close by its side I could hardly believe it. As I moved about the room, I found myself looking back at it, from point after point, and wherever we went its eyes followed us, as the motionless eyes of a good portrait will always seem to follow one about. There was not a single view in which he did not look as alive as a live dog can when he does not stir. This dog alone is enough to prove Mrs. Maxwell's claim to be called an artist.

She also wrote an illustrated account of the final exhibition for *St. Nicholas*, in 1876.

Dr. F. V. Hayden, while in charge of the United States Geological and Geographical Survey of the Territories, examined the collection in course of preparation in 1875, and is quoted in the *Boulder News* in high praise of the results of Mrs. Maxwell's work.

Later the collection was removed to Denver, where it received many additions. When plans for a Colorado exhibit at the Centennial Exposition were under way, arrangements were made to carry the entire collection to Philadelphia. There it was installed under the direction and largely by the personal work of Mrs. Maxwell. In Philadelphia and later in Washington it was visited by

scientists of note, including Dr. Elliott Coues and Dr. Robert Ridgway. The former prepared an annotated list of the mammals in the collection, consisting of 47 species, and the latter prepared a list of the birds, 234 species. These lists were published as an appendix to Mrs. Mary Dartt Thompson's "On the Plains and Among the Peaks, or How Mrs. Maxwell made her Natural History Collection," 1879. The bird list also appears in the second volume of *Field and Forest*.

Dr. Coues, in the introduction to the mammal list, says:

My repeated visits afforded me both pleasure and instruction. I was glad to see a collection of our native animals mounted in a manner far superior to ordinary museum work, and to know that there was at least one lady who could do such a thing, and who took pleasure in doing it. While the collection embraced several specimens of high scientific interest, I regarded it as one of the most valuable single collections I had ever seen—far beyond the scientific value which any collection of the animals of a locality may possess, it represented a means of popularizing natural history, and making the subject attractive to the public; the desirable end being attained by the artistic manner in which the specimens were mounted and grouped together. Faulty taxidermy has a great deal to do with creating misconceptions of nature in the public mind, and with rendering the study of natural history unattractive. The best results may be hoped for when such skillful and faithful representations of nature as those of Mrs. Maxwell, come to be recognized as a means of public instruction.

Dr. Ridgway, in the introduction to his list of birds, says:

The collection consists of excellently mounted specimens, many of which were procured by the lady herself, and all were put up by her hands. It illustrates very fully the avian fauna of Colorado, while it bears testimony, not only to the great richness and variety which characterize the productions of the new state, but also to the success which has crowned the enthusiastic and intelligent efforts of a 'woman naturalist.'

It is significant that the work of procuring the material and preparing it for exhibition was very largely the work of a woman almost without financial backing and with very little technical training; indeed, at a time when the very best technical training would not compare at all favorably with the modern preparator's art. It is much more significant that it was one of the earliest efforts in America to exhibit the animals of a large area in an imitation of their natural environment. This affords the justification for taking the time of this Association and encumbering its records, "Lest we forget!" Forty years have elapsed, and those who are familiar with Mrs. Maxwell's work at first hand are rapidly dwindling in numbers. The

published accounts of her work are meager and obscure, hence apt to escape the attention of future museum workers. Not the least important phase of an art or science is its history, and Mrs. Maxwell's Centennial exhibit is part of the history of museum work. Without any attempt at demonstration, one can scarcely doubt that such an exhibit at such a time must have at once stimulated work upon habitat groups. The extent of its influence upon modern methods there is no way of accurately measuring, but even those who never heard of the estimable lady are perhaps to a greater or less extent reaping the results of her stimulating example.

In the early seventies, while the material for the Colorado Centennial exhibit was in course of collection and preparation, with no thought of its ultimate destination, Colorado was a sparsely populated territory, just beginning to clamor for admission to the sisterhood of states. Denver contained a few thousand people; Boulder was a small village. In this village, a mile above sea level, at the very base of high, steep foothills which there rise abruptly from the plains, backed by the higher but no more rugged peaks of the Rockies, lived and wrought, in a very humble way Mrs. M. A. Maxwell. She had received a little training and experience in taxidermy at Baraboo, Wisconsin, prior to 1868, and was interested in nature and filled with a desire to impart a knowledge of natural history to others by means of object lessons. So she began to collect and mount the birds and mammals of the region, together with a few of the reptiles. One collection was sold to Shaw's Gardens at St. Louis for a small sum, whereupon she began another, which finally was taken to Philadelphia.

The remainder of the story is a sad one. Mrs. Maxwell was without means, and from all accounts her precarious sustenance during the stay in Philadelphia was derived in part, at least, from the sale of photographs of herself and her exhibit. She had hoped to sell the collection for enough to reimburse herself and in a measure recompense herself for the years of labor. In this she was doomed to disappointment, and after a few years of continued poverty, she passed away, financially unrewarded.

I have frequently been asked by naturalists and others what became of the material Mrs. Maxwell collected and prepared. In the effort to answer that question the following information has been obtained, which should be placed on record.

The St. Louis collection was of course not equal in workmanship

to the later one and by no means so extensive. It received little care and part of it, at least, was exposed much of the time to direct sunlight, and so is now of little value.

The Philadelphia collection was taken thence to Washington, where it was repeatedly visited by Coues. Thence it was removed to Saratoga. A large portion of it was destroyed by fire, but I cannot now recall at which place the fire occurred. The remainder of the material passed into the hands of a curio collector, who took no care of it. A friend who examined it a few years ago at my request reported that it had been stored in a damp place and was then practically worthless. Hence the effort to obtain it and preserve it in the University of Colorado as a matter of local interest was abandoned.

Sensational reportorial references to Mrs. Maxwell as "The Colorado Huntress," in 1876, coupled with the statement that she obtained much of the material of her exhibit herself (the exhibit including the large mammals such as bear, deer, cougars, etc.), may lead to an erroneous impression. She was not a coarse, angular, western giantess, imbued with a desire to kill. Acquaintances have described her as slight, not strapping; refined, not coarse; modest, not brazen; tenderhearted, not bloodthirsty; and, to quote one who knew and loved her well, "as shy as one of her own weasels." True, she could shoot and did shoot—not because of a thirst for innocent blood, for she loved the creatures whose lives she took; but she was determined to bring about results pleasing to her artistic and nature-loving eye and instructive to those who were unacquainted with wild life in its native haunts. She early discovered that the only way to understand the habits and poses of animals was to observe them in their natural environment; that the best way to get just the material she needed, at the proper time and in the proper condition, was to go after it, so in order to indulge her passion for the finer part of her art she undertook the disagreeable tasks also.

The Association then adjourned.

SESSION OF THURSDAY, JULY 8

Afternoon

The Association proceeded by train Thursday morning to Palo Alto, where it was received by Mr. Harry C. Peterson of the Leland Stanford Junior Museum and by a delegation from the Chamber of

Commerce of Palo Alto, which took the members in automobiles about the town and vicinity. The remainder of the morning was devoted to an inspection of the university buildings and of the Leland Stanford Junior Museum. The Association was then entertained at luncheon by the Chamber of Commerce.

The afternoon session was called to order at Stanford University by President Farrington at 2 o'clock.

President John C. Branner of Stanford University extended a very hearty welcome to the Association. He recalled the fact that Stanford University owes its origin to the interest in collecting shown by Leland Stanford, Jr., in whose memory Stanford University was founded. President Branner concluded his welcome with an expression of his belief in the educational value of museums and his desire to see Stanford University provided with the best and most useful museum collections.

President Farrington responded to the hearty welcome extended by President Branner and expressed the pleasure of the Association in visiting the university and its thanks for the hospitality extended.

Dr. A. R. Crook, curator of the Illinois State Museum, presented the following paper:

THE MUSEUM AND THE CONSERVATION MOVEMENT

The "arts of peace and the arts of war" are closely related at Springfield since the Illinois State Museum of Natural History is housed in the arsenal and visitors who come to study the birds, the fish, the mammals, the trees, the minerals, and the fossils of the state, may see also the coming and going of men clad in khaki, the hall in which they drill, and may hear the bugle call. But though so intimate in physical relationship, the museum and the arsenal *in ideals* stand at extremes. The arsenal represents war, which is primitive, destructive, costly, and horrible. The museum represents peace and the preservation of the beautiful and valuable works of nature and of man.

Museums from the beginning have preached conservation of natural resources. It may be said that they were the earliest and are now the most consistent representatives of this idea though the fact may not be generally appreciated. No mention of this fact has been made in our *Proceedings* as far as I am aware and in general no effort has been made to call attention to it. However, the prominence which

the idea has obtained within the last seven years would not have been as great were it not for the long quiet work of museums in this line, as well as for the White House conference held in Washington in 1908 at the call of the then president of the United States.

You remember how memorable was that conference because of the fact that men of science, men of business, and men of law sat down together to consider the present and future welfare of the people of the country. Their deliberations brought the subject to the foreground of human consciousness.

You remember the conferences which followed at Seattle, St. Paul, and Kansas City and doubtless may have read the interesting addresses made at those meetings. The speeches of the governors were largely from the view-point of men with their ears to the ground to ascertain and report public sentiment on the subject. The business men usually considered the proposition from the view-point of dollars and cents. The men of science furnished the largest number of facts concerning present conditions and future possibilities. The ladies were most interested in the effect of conservation on the welfare of the race.

As a result of these conferences the man on the street has become interested in the subject and this is an opportune time for museums to make special exhibits emphasizing it. On general principles I believe it is a good plan to make special exhibits. Often funds for the purchase of new exhibits fail. Increase of space for exhibition is wanting. The museum becomes a valley of dry bones waiting for the reviving breath of a vital idea. If old materials are cleaned, reassembled, and grouped to emphasize an idea, the old place takes on new life.

One of the best of special exhibits is one which represents the conservation idea. It can be made up in many lines. It might be well to begin with the subject of forest fires since it was the appalling loss caused by forest fires which fired the imagination of Pinchot and led to the White House conference mentioned above. By the use of models the destructive effects of forest fires and of improper methods of lumbering can be illustrated in the museum. Relief maps of certain localities may be readily prepared by enlarging by photography the topographic sheets obtainable at the United States Geological Survey. Nails of various lengths are driven into pine boards or flush panels upon which these blue print enlargements have been pasted with a waterproof paint. The nails give the elevations and the

correct relief is obtained when the whole surface is properly covered with papier-maché or more quickly and cheaply by a wood pulp plaster. Attention can be called to the deforested areas with their gullied hills, choked streams, and widely desolated country. The use of photographs and charts and simple statistics emphasizes the appalling destructiveness of forest fires. The effects of stream pollution may be indicated on these same maps by painting the rivers, which are ordinarily represented in blue, with a brown or red tint to indicate where manufacturing plants or sewers pour in their contaminating materials.

The passing procession of animals marching into oblivion makes an impressive exhibit. Here may be grouped the larger mammals, the birds, and fishes—those which are dwindling, those that have recently disappeared (within the last fifty or one hundred years), and those that became extinct in quaternary, tertiary, cretaceous, or preceding geological periods as far back as the record runs. No portion of the conservation exhibit is more attractive than this since probably a larger number of visitors in the ordinary museums are interested in animals and in the vistas of the geological record than in any other department of natural history. I am glad to note that a number of museums have been devoting considerable attention to this work.

Wastes in mineral resources can be illustrated by the use of minerals themselves and by the employment of models. The use of the former requires less technique and expense and can be made quite effective. For example, a cube of coal to show the amount in an acre of typical coal land; another cube representing the amount obtained with best methods of mining; another the amount by the worst methods; another to indicate the quantity lost in transportation; another the amount yielding heat units; etc. In this kind of work the field is limitless.

Models are very attractive and understandable—models of mines, of machinery, of locomotive transportation, of the wasteful stoker, of the careless kitchen maid who uses two pailfuls of coal where one would do, thus wasting possibly ten million daily in the United States.

Similarly, waste in gas and oil production can be presented in a striking manner—measures, models, and pictures being employed to show waste in field, in transportation, in consumption. The wisest and most remunerative use of oil, namely, as a source of lubricants, dyes, drugs, and various refined products should be emphasized.

A multitude of other mineral industries can be shown along the same lines.

Then there is the great subject of soil conservation which appeals not only to agriculturists but to every one who is confronted with the high cost of living. This exhibit would be composed of items such as the following: specimens to show sources of the four elements most essential to plant growth (nitrogen, potassium, calcium, and phosphorus); things which cause contamination of soils; the destructive agents; a map whose surface is covered with characteristic soils; samples of the soils with analyses; and mechanical devices to prevent erosion and to secure proper cultivation. These things would form a very instructive exhibit.

The most important of all conservation, of course, is the conservation of the human race. Care of forests, rivers, soils, and minerals is important chiefly because of their relation to mankind. The greatest of all resources is the brains of the people. Money spent in increasing intellectual alertness will bring a larger return to the state and the nation than that spent in any other way. Museums are ideal institutions for this purpose since they appeal to the illiterate as well as to the learned, to the young as well as to the old, to the prepared as well as to the unprepared.

Think what could be accomplished in an intellectual way for people who have missed school advantages, by 500 institutions of this kind throughout such a state as Illinois or California! By showing actual conditions in nature, by calling attention to the wrong attitude of man towards nature, and by pointing the way to good practices, as well as by stimulating thought along all lines, these institutions would be the most effective of all conservation agents.

The conservation movement was born in the minds of men who were influenced by the facts so well shown in museums. It has bloomed into a general valuation of natural resources and will bear the fruit of increased prosperity and happiness of all the people.

Dr. Walter P. Taylor, curator of mammals in the Museum of Vertebrate Zoology at the University of California, presented the following paper:

THE MUSEUM OF NATURAL HISTORY AND THE CONSERVATION OF GAME

A recent writer has well said that the problems of peace are more difficult than the problems of war. Of all the problems of peace there are few which should be of greater concern to the American people than that of the conservation of our natural resources. Unfortunately we have carried on such a campaign of progressive destruction that we have achieved the reputation of being the most wasteful people on the face of the earth.

While this policy of wastefulness has been carried forward with regard to several different resources, it is perhaps most evident when we compare the present with the former status of our native fauna. In California two species of birds and eight of mammals have already been totally extirpated, and the lives of ten more bird species and five more mammal species hang by a thread. California is not alone. The records of your own state, whichever it may be, are not much better if they are not worse.

We Americans have made mistakes. But we have a capacity for reformation, and not the least hopeful of our characteristics is a strain of idealism which insists that we must properly guard the welfare not only of the people of the present, but of the generations of the future.

Fortunately there are signs of a nation-wide awakening to the necessity of the conservation of wild life. This is shown, for example, by the statistics of increase in the number of societies for bird and game protection. Previous to 1900 there were few societies devoted primarily to this cause; now there are nearly one hundred state and ten national organizations, several of these last with large endowments, fighting the battle for preservation. And there are other similar indications of this hopeful trend of public attitude which I shall not take time to detail.

Even with this encouraging showing it must be admitted that all these protective agencies put together are not sufficient to stem altogether the tide of destruction. Now since many of the foremost specialists of America in the status, the habits, and the necessities of the members of the native fauna make up the working force in our museums of natural history, I submit that upon these persons and institutions rest peculiar obligations to contribute to the solution of the problems involved.

There are four chief lines of activity bearing on wild life protection in which the museum of natural history may legitimately engage. These are investigation of the facts, cooperation with other protective agencies, the making freely available of opinions and advice as to legislation, and education of the general public.

INVESTIGATION

Fundamental to protection of any sort is investigation. The scientific man and the scientific institution should oppose in no uncertain terms the silly sentimentalism which leads to undue restriction of the collecting of objects of natural history. The sacrifice of a comparatively small amount of life is often the condition of the preservation of an amount infinitely greater, and the sentimentalism which interposes objection to reasonable collecting of scientific specimens is the worst foe of that true sentiment upon which all conservation must be based.

The detailed examination by the Bureau of Biological Survey of the United States Department of Agriculture of the stomachs of several thousand birds has made secure and certain the protection of the uncountable millions of beneficial non-game and insectivorous birds the continent over.

In this connection permit me to recall to your minds the details of the California sea lion episode. About twenty years back the salmon fishermen prayed the state government to permit and secure the killing of a large number of sea lions which inhabited the rookeries off the Californian coast, on the grounds that the sea lions were destroying the salmon-fishing industry. The demand became more and more insistent until about the year 1900, when a legislature came into power which passed the enabling act whereby ten thousand sea lions were to be killed. In due season the slaughter commenced. It happened that about this time the late Prof. L. L. Dyche of the University of Kansas, a member of the American Association of Museums to the time of his death, spent three months on the coast, and took occasion to open the stomachs of twenty-five sea lions which had been killed for eating salmon. It had apparently not occurred to anybody previous to this time to look into the animal's stomach to see what it actually did eat. Imagine the surprise of the practical fishermen when Professor Dyche opened stomach after stomach in their presence and failed to find a trace of fish!

The haphazard method of legislating for the protection of beneficial and destruction of detrimental species will go on until circumstantial evidence, which is too often given unwarranted credence by the general public, is replaced by definite and incontrovertible statistics as to the food and habits of mammals and birds. Since the accumulation of these statistics depends to a great extent upon the gathering and study of the objects of natural history, we must insist that museums and properly qualified private individuals be unrestricted in their rights to collect.

This plea for the maintenance of the right of collecting, however, does not at all contemplate the reservation to scientific men and museums of the right to exterminate. To the mind of the writer, there may come a time when absolutely no killing of nearly extinct species for any purpose should be permitted, even in the interest of science.

COOPERATION

Cooperation with organized agencies for wild life conservation, such as private societies and state and governmental commissions, should assume a more important place in the program of work of the museum of natural history. Organizations for the protection of game the scope of whose activities are state or even nation-wide are increasing in numbers. Staff members of museums can often assist in the launching of such societies, and in the wise direction of their activities subsequent to their organization. The fund of information possessed by the museum workers should so far as possible be made freely available for their use.

A large field of activity is opened up in connection with the possibility of cooperation with state conservation commissions or state boards of fish and game commissioners. Public museums in particular have responsibility here. Special lines of investigation upon which information is desired at particular times by the commissioners should be followed up so far as may be practicable by museum investigators. This will have a tendency to put the work of state commissions on a scientific basis, and at the same time relate the work of the museum in a definite way to the needs of the community from which its support is derived.

The intimate relation naturally existing between the work of the state fish and game commission and the museum is shown by the fact that in at least one state the commission is in the process of creating a natural history museum.

LEGISLATION

Our laws concerning wild life are on the whole very good, but our enforcement of them is practically everywhere very lax. Our chief emphasis should undoubtedly be placed rather upon the enforcement of existing laws than upon the securing of new laws. After this is said, however, it must be remembered that certain laws which are not as yet on our statute books are highly desirable. Some examples from our own experience in California may serve to show concretely the background for this statement.

The total Band-tailed Pigeon population of the Pacific Coast concentrates in California during the winter season. The birds have in the past been subjected to great slaughter in our state. In view of the fate suffered by the Passenger Pigeon, a relative of our Pacific Coast species, and of the fact that ordinarily only one young bird is raised each year by each pair of pigeons, a protective law would seem to have been justified. Yet not one iota of protection has been given to the Band-tailed Pigeon by California *to date*. In this instance the strong arm of the government recently came to the rescue, and the Federal Migratory Bird Law accorded the pigeon a five-year close season.

The sea otter which occurs off the coast of California as well as to the northward is the source of one of the finest and most expensive furs in the world. But it was not till 1913, when the species was so reduced in numbers that its preservation is problematic, that our legislature got around to putting protection on the sea otter. A law regulating traffic in sea otters should have been enacted sixty years ago.

I cite California, not because she is a special offender, but simply because I am more familiar with the details of her history. The point I make is that we do need additional wise laws, and the sovereign people of our respective communities have the right to the opinions and advice of those workers to whom they have entrusted the responsibility of scientific investigation and education.

EDUCATION

Of the various ways in which the museum may contribute to the conservation of wild life there is none which is of greater importance than education. If the people can be really interested in animate nature then they may be trusted to solve the problem of its preserva-

tion. We should strive to secure their interest in trees, birds, and mammals, and to concentrate their attention upon the desirability of saving for the future a supply of each. The best police officer in the world is an enlightened public sentiment. Through lectures, newspaper and magazine articles, books and publications suitable for public consumption, well-planned exhibits and all other available means we must get the word to the people. Most reforms become increasingly desirable as time goes on, but reforms in the administration of the native fauna must come quickly or they will avail little. Consequently our campaign of education must be as drastic and far reaching as we can make it.

WORK OF ONE MUSEUM IN CONSERVATION

The Museum of Vertebrate Zoology at the University of California is primarily a research institution, such teaching or exhibition as is provided being incidental to the prosecution of formal investigation. We might, perhaps, be justified in isolating ourselves within the four walls of our own building and in maintaining a true academic apartness from the common life-stream of our state, and, sequestered in such a manner, we might pursue successfully a certain type of high culture which would be unsullied by any suggestion of practicality. Such a course, perhaps, has much to commend it; but in a democracy like ours it hardly seems to fill the bill.

Our museum recognizes that the state of California has by implication entrusted to it certain responsibilities, one of these responsibilities being to strive, so far as may be practicable and proper, for the maintenance of the integrity of the native fauna.

Contributions to the solution of this particular problem are made along several different lines. The object in citing the details which follow is not to flaunt our own achievements, but to show how, given the conviction that a museum has a duty to help towards conservation, the details may be worked out.

Field investigations are carried forward, resulting in annual increments to our store of specimens and knowledge of habits, relative abundance, and distribution of species. This work is regarded as of fundamental importance.

Our influence, except in the rarest instances, is thrown against the introduction of foreign game or other species. It is felt that if a community cannot adequately protect its native fauna, there is small

hope that it can preserve such species as might be introduced; and it is realized that the introduction of foreign species is often accompanied by unforeseen and sometimes harmful disturbances in the balance of nature.

The exigencies of the wild-life situation are taken into account in the outlining of our research program for the future. This does not mean that we do not believe in research the results of which cannot be put to immediate use. But it does mean that often when two problems of equal interest present themselves, one having a direct bearing on some problem of conservation, the other for the time being of purely theoretical significance, the more clearly useful problem is taken up.

Staff members are encouraged to promote outside conservation activities, of course within limits, and to work directly, as individuals, for particular measures. One staff-member has been given over bodily to the state, and is now serving as game expert and director of education, publicity, and research for the California Fish and Game Commission. Another member has on two separate occasions been granted temporary leave of absence to devote all his time to work for particular legislative reforms bearing on the wild life situation within the state.

The director of the museum and two members of the staff are collaborating in the authorship of a book on the game birds of California, in which will be incorporated the results of original observations and investigations as well as pertinent data from other sources, special emphasis throughout being placed on the problem of conservation. Furthermore, the director of the museum has recently completed and published a report upon the status of the Band-tailed Pigeon together with a statement of legislative necessities with regard thereto, and is at work upon several more reports on certain big game mammals found in California. One member of the staff is secretary of the California Associated Societies for the Conservation of Wild Life, chairman of a permanent committee of the Cooper Ornithological Club on game protection, and member of the committee appointed by the Secretary of Agriculture to advise with reference to the new Federal Migratory Bird Law; another is secretary of a division of the Cooper Ornithological Club; and the director is the editor of *The Condor*, the well-known ornithological magazine the influence of which is always strongly on the side of sanity in the administration of the native fauna. In these and other ways we are attempting to discharge our legitimate responsibilities in the province of conservation

DEMOCRACY, OPPORTUNITY, AND THE PROBLEMS OF PEACE

It seems clear that in a properly working democracy the museum should be intimately cognizant of the needs of the people, and should strive to meet these needs so far as may be practicable. It may fairly be said that the opportunities for public service open to our institutions are limited only by the capacity of vision of the men who compose their working force. A museum should be something more than a storehouse of dry bones or stuffed bird skins; it should be a vital force in shaping the thought of the community, a center for the inspiration of an unquenchable desire to preserve the beauties of wild nature, whether they be grand natural parks, or broad acres of forest, or living mammals and birds.

But we cannot hope to maintain any great vitality as shapers of public opinion if we lose the common touch. Although it is believed we can even along this line do better, it is quite probable that no body of scientific men is more sensitive to its responsibilities to promote the public welfare or more sympathetic with popular needs than the group of which the American Association of Museums is the organized exponent. Conklin¹ has recently protested against the tendency among scientific men to regard the teacher and interpreter of science to the plain people as having lost caste. It is believed that museum workers will give heartfelt assent to this protest.

I do not wish to be understood to be calling in question the value of pure scientific investigation, for in the long run this has proved to be unquestionably the most useful kind. But I do wish to emphasize the duty of the scientific investigator to be also an educator. Often the special investigator will be the only person competent to act as interpreter of his own work to the people. Since most of our museums of natural history are public institutions this plea should come home to us with special force.

In conclusion, permit me to state my thesis summarily as follows: Conservation of natural resources is one of the most important of the difficult problems of peace which confront our nation at the present time. The exigencies of the situation in the matter of preservation of wild life are such that every available agency should be enlisted in the campaign for sane protection. Among these agencies the museum of natural history should assume prominent place. Legitimate lines of activity for such institutions are: first, investi-

¹ *Science*, March 5, 1915, p. 334.

gation of the facts, as far reaching and comprehensive as possible; second, generous cooperation with other protective agencies, public and private; third, the making freely and directly available to the people and their agents the results of investigations which must profoundly influence the course of legislation; and fourth, the education of the general public in natural history, to the end that an enlightened public sentiment be secured.

In the discussion following the papers by Dr. Crook and Dr. Taylor, Prof. Junius Henderson of the University of Colorado expressed the opinion that the conservation of wild life is a matter for education rather than legislation. He thinks that the destruction is largely due to ignorance on the part of the people in general rather than to the work of market hunters and plumage hunters. There is thus a large opportunity for every natural history museum to educate the people to the importance of conserving wild life. He suggested the distribution of pamphlets on this subject, the preparation of special exhibits, and the use of labels as means of educating the public in this matter.

Mrs. D. W. de Veer of the Oakland Public Museum suggested that conservation affords a broad field for the lecturer and the educator. To enlist the sympathy of children is to mold the public opinion of the future and here the museums have a broad opportunity.

Mr. Henry L. Ward of the Milwaukee Public Museum reported that his institution has a special lecture on conservation given regularly to all school children from the fifth to the eighth grades in addition to some from private schools. The state game warden in Wisconsin has put in the field a number of wardens qualified to travel about the state and give stereopticon lectures on conservation for the purpose of creating public sentiment. Mr. Ward described his plans for a special conservation exhibit in the Milwaukee Museum.

Mr. Herbert E. Sargent of the Kent Scientific Museum at Grand Rapids described the success of a special educational campaign for the conservation of birds which he conducted in Grand Rapids in cooperation with the Audubon Society. Illustrated lectures were given at a large number of schools and the campaign culminated in a large mass meeting which greatly stimulated interest in birds and their protection.

Professor Henderson reported that the University of Colorado

offers a free lecture to the people of the state on the value of birds. The museum also furnishes to the State Audubon Society lantern slides which Professor Henderson has had colored at his own expense.

Mr. Harry C. Peterson, director of the Leland Stanford Junior Museum, then presented a series of lantern slides illustrating in a most vivid and interesting way the damages suffered by the Leland Stanford Junior Museum in the earthquake of 1906. The building was largely demolished and Mr. Peterson's account of the methods used for the recovery of such material as was not broken, even to the sifting of the débris through three screens, brought to all the members a fuller realization of this great catastrophe. Palo Alto is situated only a short distance from the fault line and in consequence received about 40 per cent more vibration than most other places.

Mr. Peterson followed this demonstration with a historical account of the development of moving picture projection which was first successfully achieved on Senator Stanford's stock farm. He then discussed the application of moving pictures to the educational work of museums.

The discussion which ensued was strongly in favor of the use of moving pictures in museum educational work, in marked contrast to the rather adverse opinions expressed in the Milwaukee-Chicago meeting. A strong desire was developed for a reduction of the fire hazard in the use of moving pictures and for organized means of providing better educational films and exchanges to promote their general use. Attention was especially directed to the fact that the film companies label their pictures very inaccurately and inadequately.

Mr. Remi H. Santens, chief preparator in the taxidermic laboratory of the Carnegie Museum in Pittsburgh, then presented the following paper:

PROGRESS IN TAXIDERMY

As time elapses, all branches of industry, science, and art are endeavoring to proceed toward perfection, and taxidermy, the art of preparing animals of all kinds in their exact natural form, is in the contest and is well near the front.

By looking back to the time when animals were "stuffed"—in many cases in the literal meaning and full extent of the word—and



VIEW IN LELAND STANFORD JUNIOR MUSEUM AFTER THE EARTHQUAKE OF 1906



ADJUSTABLE CLAY MODELING FRAME

by comparing former with present day methods, we can readily see what vast progress has been made.

An expert taxidermist of today, one advanced in his art, desires if possible to collect his own specimens, thereby gaining correct ideas of the anatomical features, securing good pictures of the correct positions, and taking measurements, casts of different parts, and examples of the surroundings—such as foliage, rocks, etc.

As a rule a taxidermist cannot collect his own animals, and in this case the modern method is to visit some zoological park where living animals of the species to be mounted can be studied.

The first step in the modern method of mounting animals is to make a miniature clay model, usually of plastilina modeling clay, using the greatest care to get all muscles, wrinkles, cords, and veins worked out, and also to get the proportionate size. In other words, a true-to-life animal in small tectonic form is modeled.

After this miniature model is completed, a life-size model is patterned from it in plastilina modeling clay. When the life-size model is completed it is cast in sections, and the plaster molds thus secured are properly inlaid with layers of different materials. When the desired thickness is attained, the cast is extracted from the mold, the result being a strong light shell. A good method of putting the sections together is by the use of light wooden blocks and small screws.

The skin is now fitted to the life-size form, using rye paste to fasten it in a dry state to its manikin.

It may be added that all the bones are saved, including the skulls (in the life-size models), as the clay is taken from them after the cast is made.

The accompanying illustration shows a special adjustable clay modeling frame designed and used in the Carnegie Museum. The following notes explain its construction:

Turn-buckles enable raising or lowering, and shortening or lengthening.

The legs are fastened to the frame with elbows and can be swung backward or forward, taking any position possible.

The body outline may be readily changed by screwing the supports.

A union in the neck enables the head to be turned.

The rear body support is attached to a sliding board on a base which works cooperatively with the turn-buckle in the body center. If a greater or smaller variation in size than the turn-buckles can give

is desired, it can be attained by the use of longer or shorter nipples or sections of pipe throughout the entire frame-work.

This modeling frame can be used indefinitely for many sizes of mammals.

The Association then adjourned.

SESSION OF FRIDAY, JULY 9

Morning

The meeting was called to order by President Farrington at 10 a.m. in the California Academy of Sciences.

In the absence of the author, the following paper by Dr. Joseph Grinnell, director of the Museum of Vertebrate Zoology at the University of California, was read by title:

METHODS OF CARING FOR STUDY SKINS OF BIRDS

The topic I have chosen might be thought long ago exhausted. Examination of the eight volumes of the *Proceedings* of this Association, however, fails to disclose previous mention of many of the problems involved.

Whether or not the special interest of any museum lies in the field of ornithology, bird skins, of all natural history objects, inevitably find a place among its possessions. The relatively large number of amateurs who collect birds almost guarantees that each newly started museum shall soon receive by gift or bequest, irrespective of its own desires, collections in this field. It becomes the duty of the institution to care for this sort of material, not only because of responsibility to donors, but because, as I most earnestly believe, bird skins constitute a valuable part of every museum's equipment on account of their research and educational usefulness. Practically every museum administrator has to deal with the bird skin problem, and it deserves thoughtful consideration.

The care required in preserving a collection of bird skins and in making them available for use is really not great in amount; but it is of a particular kind. Our experience in the California Museum of Vertebrate Zoology, in gathering and housing some 35,000 bird skins within the past seven years, has brought about the revision of long-standing customs with regard to the handling of bird skins,



GROUP OF AFRICAN BUFFALOES. CHILDS FRICK COLLECTION OF EAST AFRICAN MAMMALS.
MOUNTED BY R. H. SANTENS, CARNEGIE MUSEUM, PITTSBURGH, PA.

involving points which I venture to offer herewith, trusting that some of them may prove new and subject to adoption by others having to face the problem.

There are two sources of bird skins: (1) from gift or purchase from collectors, very often amateurs, and (2) as gathered by the trained field collector under the direction, and in accordance with the determined methods, of the museum itself. Of course, practically nothing further can be done with the bird skin from the first source. It may be made over, if particularly distorted, but I consider this advisable only in extreme cases. The original 'make' of a skin, however peculiar or inconsistent with current results, gives it individuality; and the remaking of it will not only rob it of this interest but is liable to obscure or modify some real characters of the species it represents.

In accessioning such specimens it is my firm belief that the original label, and all subsequent labels that have been attached, should be retained. A label should be held sacred, never to be separated from the specimen. This tenet I should insist upon with no exception whatever; not even such as suggested by Osgood in the fourth volume of our *Proceedings*.¹ The original label, no matter how ungainly in size or form, or how inconvenient, should be preserved inseparable from the skin. Both can be kept together with maximum safety as well as either alone. If the label shows signs of disintegration it is high time to take special pains to care for the skin also, as by providing a separate small covered box or wrapper for it.

In addition to the original tags, a regular museum label will be tied to each specimen, upon which is inscribed the department number and the current name of the species represented. In the case of original tags which are falling to pieces or upon which the ink is fading, all of the data should be duplicated upon the newly added label.

A word here as to labels, even though this subject has been so exhaustively discussed by Osgood² and others previously. Experience has led me to prefer a label somewhat larger than that employed by the Biological Survey. Our regular label for bird and mammal skins measures 63 x 15 mm. ($2\frac{1}{2}$ x $\frac{5}{8}$ inches). The only printing upon it is the name of the institution in small type centered at the top on one side only. The string is attached through two punctures at the

¹Osgood, W. H., Labeling Large Collections of Mammals and Birds, *Proc. Am. Assoc. Mus.*, IV, 1910, 107.

²Ibid., 105-111.

left of this. It seems to me that a great mistake is made by printing the bulk of the data on the labels, as is customary in many institutions. The original handwriting, and especially the signature of the field collector or museum assistant, is a guarantee of authenticity. The signature vouches for the facts upon the label. I have, too, discarded entirely the use of the rubber stamp either in the field or museum. Every item on the label is handwritten with Higgins' Eternal Ink. We have found that the most approved stamp pad ink (every sort we have tried) is affected in one way or another. For instance, in a skin which is greasy, such as that of a Night Hawk, the grease runs out on to the label, reaching it by way of the string, and partly or entirely obliterates the legend imprinted by the rubber stamp. Fading from other causes has occurred with some of our labels. Carbon writing ink is the only thing for inscriptions upon specimen labels.

As to the kind of string, we have finally come to adhere strictly to no. 8 cotton thread, "J. & P. Coats Best 6 Cord." This so far has defied the action of grease and various other deteriorating agents. We once received a collection of skins in which the labels were tied with the most approved linen cord. In course of a few years this cord has become so rotten that in many cases the labels have had to be retied—always a dangerous proceeding because of liability of mixing labels.

As regards tying the label to the bird skin, our custom is again at variance with that of most other museums. We leave the tag strung loosely, falling about one inch from the crossed legs to which it is tied, so that it dangles freely. Experience has convinced me that when labels are tied directly and firmly to the feet, with no intervening string, the specimen is more readily subject to breakage. It is often found necessary to turn the label in order to read the legend on both sides; where the label is tied firmly to the feet this is difficult or impossible without moving these appendages, and, their attachment to the skin being more or less brittle, their breakage in many cases occurs.

The distribution of the data on the label in a uniform order has seemed to us worth attention. The side of the label which bears the name of the institution should be reserved explicitly for the department number and for the name of the species. The reverse side should contain all of the field data. The order in which we now place this is as follows, occupying three or four lines, as need be: sex, original or collector's number, signature of collector; exact locality,

altitude, and general locality; date; measurements; colors of soft parts. All of this data is regularly inscribed by hand on one side of the label only, as emphasized above.

Where the museum's interests lead to field work under its own direction it is, of course, not difficult to secure an ideal collection of skins. With field men employed, a uniform make of skin reaches the museum and the style and content of the field label can be dictated in advance. Always have the permanent label tied on in the field *when the bird is skinned*, this label bearing the entire field data. It seems to me the height of folly to attach a temporary number even though this corresponds to a note-book entry, leaving the full data to be inscribed at the museum or even at the end of some days or weeks collecting in the field. Serious error is thereby invited. The fully inscribed label, attached to the specimen at once, is as essential a part of the whole thing as the bill or feet and should be retained inviolate.

Assuming that the skin has arrived at the museum, whether from vagarious source or from the regularly employed field collector, the first step is, of course, to thoroughly fumigate. We use the carbon bisulphide method in the small zinc cases. This has always proved completely effective. The horror of introducing dermestids throughout our cases when distributing new accessions leads us to perform the duty of fumigation with the greatest conscientiousness. The memory of a sad experience has taught us the lesson!

It is not my purpose to describe here any particular system of cataloging. Suffice it to say that we employ the well-known card system under which there are three entries—in the accession catalog, the department catalog, and the reference catalog. The department catalog, of course, provides every specimen in an accession with its running catalog number. The reference catalog is arranged alphabetically by genera and under these by specific and subspecific names together, subspecific being treated as if specific. By a plentiful use of guide cards the catalogs can be used with ease.

As to installation, it is of the utmost importance that bird skins be not cramped for room. Deterioration is rapid where birds are piled in trays one upon another and where they are at the same time subject to frequent handling. Wear and tear of feathers then becomes great. This can be obviated by providing adequate space. Our standard unit zinc case with pulpboard-bottom trays seems to be about a duplicate of what has been adopted elsewhere of recent years. We use no cotton lining in the trays. The smooth surface

of the pulpboard bottom produces least ruffling of the feathers and facilitates handling of bird skins *en masse*. Bird skins in long series may be lifted and transferred easily by the use of a thin, limber piece of cardboard which can be slid under the mass of skins with very little disturbance of their relative positions. In a surprisingly few minutes, when it becomes necessary, a whole case of birds such as warblers, numbering 2000 or more, may be moved from one set of trays to another. The only conditions under which a tray lining seems to me desirable is when greasy bird skins are to be housed; then a layer of blotting paper beneath the affected specimens is useful to prevent the oil from being absorbed by the tray bottom.

A very important item to my mind is the position in which the bird skins are laid upon each tray. The head should be directed to the left so that the label extends straight out to the right, and reads right side up. A series of skins thus lies in fore-and-aft rows in the tray. As the tray is slid in and out of the case the inevitable resulting momentum tends to slide the skins so that they press upon one another sideways. I know that custom in some other museums prescribes that the birds shall be arranged in series crossways of the trays, the heads pointing away from the case door. Where the trays are then handled by any but the most careful attendant, there is more or less excessive motion, and this is bound to produce a sliding of the birds toward the back end of the tray, the heads of one row crowding into the tails of the next, thus causing a serious disarrangement of the plumage. This is minimized by the method of arrangement we have adopted, as just indicated. Incidentally, we have printed and conspicuously displayed upon the front of several of the trays in each case: "Handle trays gently. Slide the trays slowly so as not to disarrange contents." We believe this admonition is heeded at least occasionally, often enough to make it worth while! In our own institution (and it seems to me this should be the case everywhere) our cases of study skins are available to be opened and inspected by the university student and by practically everyone else who declares special interest in inspecting their contents. It is true that we discourage casual visitors from looking at the study series, and to meet the usual needs of beginners, or such casual inquirers, we have a separate case containing a selection of study skins representing the local species. This is usually sufficient to absorb the time and interest of the non-technical visitor.

Let me take this opportunity to urge the value of collections of

bird skins—to give reasons why they should be adequately and conscientiously cared for. The value of a bird skin falls under two heads; research and education, though these terms are really closely allied, and the two functions blend. First, the bird skin, together with its label, is a repository of significant facts in a great number of fields. Of these we may mention: geographic distribution, ecology, phylogeny, systematics, meaning of coloration, economic relations. New lines of inquiry are continually being brought to our attention such as may be based upon the study of bird skins. I know that external characters, such as are presented by the study skin alone, are often summarily depreciated, as merely superficial; but reflection brings out the fact of correlation of parts, and this fact must be given due weight. A single external feature may constitute an index to a train of dependent and correlated internal structures. The recognition of the one index character will often be sufficient for ecologic or systematic needs.

As regards general educational value, the bird skin, in lieu of, or as supplementing, properly mounted and displayed specimens, serves well in class instruction and for the use of the amateur student who may be independently working in the fascinating field of ornithology. The number of the latter is increasing and the value of the museum study collection open for public use is correspondingly increasing. In this connection the fact of wide-spread discouragement of private collecting should be borne in mind, no matter how much we may sincerely deplore this tendency.

The bird skin is an inevitable element in the equipment of most museums and should everywhere be accorded all needed attention to the end that it may serve fully its immediate and future usefulness.

The following paper by Mr. Herbert Clowes, landscape modeler at the Public Museum of the City of Milwaukee, was read by title:

TACKLESS LABELING FOR EXHIBITION PURPOSES

Every curator and exhibitor desires to have his descriptions as far as is possible clean-cut and readable, with the absence of any extraneous attachment calculated to distract attention from the wording, which is the main instructive objective of the label. We have heard much of labeling in the past, and it occurred to me that the following 'kink' (as I prefer to term it) may be worthy of adoption.

The idea has been to try and eliminate unsightly tacks, brads, pins, or nails, usually considered necessary for the attachment of labels, but which detract from a good appearance. Experimentation boiled itself down finally to a simple formula, and the test of results is, of course, best considered in the light of practical application extending over a number of years.

This test we have applied in various departments at the Public Museum in Milwaukee for many years past, and are satisfied with the good results obtained. The advantages of the method of attachment to be described are many, among them being cheapness, invisibility, reliability, saving of time, ease of application, adaptability to any dry surface (glass, metal, concrete, paper, wood, etc.), and the leaving of no unsightly marks when removed for rearrangement. It has also been found useful as a quick filler on mineralogical specimens (usually very awkward to number), which are then given a thin coating of shellac. The accession or other number is painted on with oil color or otherwise, or a printed number is pressed on (omitting the shellac coating in this case).

Many enquiries having been received, it was thought that other museums might be interested, so I give the formula, as follows:

FORMULA

Take one ounce by weight of good bleached *Beeswax*. (It is important that it be free from commercial adulterations such as paraffin, tallow, stearin, or other introduced oils or fats.) Melt in water bath in a clean vessel (preferably porcelain, as a teacup). When liquefied, add and stir in one good teaspoonful of Canada Balsam, or Balsam Fir (a little more for cold climates and winter, and a trifle less for summer and warmer climates). Make up fresh quantities as needed. When well mixed, pour into any suitable clean receptacle (a clean shoeblackening tin with cover is good). Set aside till cold; then cover from the dust and dirt. To use, take out a small quantity with the point of a penknife and smear it not too thickly *near* the corners of the back of the label, or make a small ball of it by rolling it between fingers and thumb—the warmth of the hand will soften it—and attach *near* the corners by pressure; arrange label and press corners with a clean rag until it thoroughly adheres. It makes a clean job and is easy to apply. Surfaces must be dry. When a good quality of wax is used, it will be found that there is no danger of stains soak-

ing through to the face of the label, since the formula contains neither grease, oil, nor water. If the mixture is too hard for any special purpose, remelt and add a little more balsam, or if too soft add a little more wax. Most people prefer it soft as it works easier, but we find the proportions given to be just right.

To remove a label, pry it off with the point of a warmed penknife and it will come away easily. Then clean the surfaces with a small piece of flat soft wood, finishing with a clean cloth.

The following paper by Mr. Benj. Ives Gilman, Secretary of the Museum of Fine Arts in Boston, was read by title:

THE MUSEUM DOCENT

The Church here is taken for the Church as it is docent and regent; as it teaches and governs.—Century Dictionary, Art.: "Docent;" from Archbishop Laud (1573-1645).

A museum is an institution founded to keep things for show. In the English of the seventeenth century it might be said to fulfil its purpose as it is *gardant* and *monstrant*; as it preserves and exhibits.

To exhibit objects is to do the needful to make them visible. But there are two ways in which things become visible—to the bodily eye and to the spiritual sight. Gazing upon them is one thing, understanding them another. To fulfil its complete purpose as a show, a museum must do the needful in both ways. It must arrange its contents so that they can be looked at; but also help its average of visitors to know what they mean. It must at once install its contents and see to their interpretation.

Hence to express the full duty of museums it will be convenient to use three adjectives, and not two only. Reserving the word *monstrant* for presentation to the bodily eye, we need another for the sharpening of the spiritual sight. The business of mental preparation is called teaching, and the appropriate adjective is given in the quotation above. A museum performs its complete office as it is at once *gardant*, *monstrant*, and *docent*.

The docent office differs in museums of science and museums of art. We understand a fossil or a machine when we grasp the scientific or technical principles it is shown to illustrate; but whatever historical or professional interest a work of art may have, we do not

understand it until we receive from it the impression the artist meant it should make upon beholders. Objects called works of art have meanings in the literal sense. They are one of the forms of human speech, one of the ways in which men utter their minds to one another. A fossil or a machine has meaning only figuratively. The one was not made by man at all, and the other was made, not to tell something to us but to do something for us. It is not enough therefore to understand an imaginative creation as we may understand a discovery or an invention. We must know beside what its maker intended it to tell us; and in order to grasp it as a work of art, this is all we need to understand from it. Its historical or professional significance is no part of the meaning it was made to communicate, however much—or little—either may aid toward the apprehension of that meaning. The docent duty of a museum dedicated to art is summed up in the revelation of the moods of sense and thought and feeling of which its contents are the records. In so far as it recognizes an independent teaching office, historical or professional, it treats itself, not as a museum of art, but as a museum of science or industry. With a certain danger to its usefulness, let us remember; for, in importance, a knowledge of the historical and professional principles illustrated in a masterpiece are to an acquaintance with the masterpiece itself as the crackling of thorns under a pot to the meal cooked by their burning.

The art museum as docent aims to help us read works of art as we would read books; that is, to help us divine what their authors meant to say. A sensible remark of an old-time museum official was in effect a call for the service: "The larger the number of those who can appreciate art, the broader and surer the foundations on which the future of its excellence can rest."¹ For the understanding of this office two facts are of prime importance. The docent duty of a museum of art is not in practice an accidental obligation, which it may or may not be called upon to fulfil according as its community is more or less instructed. It is a necessary obligation grounded in the nature of a museum as a permanent exhibition. Further, the docent duty of a museum of art is not of a piece with the education of the school, but radically distinguished from it by the selective nature of museum contents.

¹ Edward Edwards: *Administrative Economy of the Fine Arts*, London, 1840, p. 98.

A museum is ultimately responsible for certain teaching because it preserves things indefinitely. Any permanent exhibition comes sooner or later to contain objects out of date, and the older it grows, the more it contains and the more out of date some of them become. The fullest understanding of these objects demands in the spectator a sympathy with the past; a sympathy in part, and always in major part, spontaneous and not to be attained by taking thought, but in part also, and often in necessary part, capable of attainment by premeditated effort, by what we call instruction. Such instruction it is the duty of a museum to assure to its visitors, whether by imparting it directly or by seeing that they can obtain it otherwise. Every museum of art, by its nature as a keeper of things for show, creates a certain educational need, and assumes a certain educational obligation auxiliary to its ultimate purpose.

Again, the education obligatory on a museum of art because of the stability of its collections differs radically from the education of the school because of their quality.

The school stands by its nature for relative excellence. School teaching is at once constrained to a secondary aim, and adapted to secondary powers. Collective instruction, or teaching imparted to a number of persons at once, cannot convey to all an equal comprehension of its theme, owing to the different teachableness of different intelligences. President Wilson, quoting a former colleague, has just reminded us that "the human mind has infinite resources for resisting the introduction of knowledge;" and within the finite resources of the teacher of a class is only the introduction of so much as may qualify his scholars generally to answer a limited set of questions. The instruction of the school tends unavoidably to aim not at education but at graduation. A man of science uses the expression, "a teacher only with no ambitions beyond enabling his classes to pass their examinations."² Again, the recipients of school instruction are customarily the young. It is addressed not to intelligences at the height of their powers, but to intelligences in process of development. Education, technically so-called, aims both at applying incomplete tests, and at applying them to immature minds. As well by its method as by its field, the school from primary to professional stands for relative excellence.

The museum of art stands on the contrary for absolute excellence.

² Prof. E. C. Pickering in *Science*, xli, 1915, no. 1051.

It seeks to preserve only the best of the past. As docent, its duty is to aid its visitors, by the use of whatever means prove most effective, to assimilate certain of the highest achievements of minds at once mature and especially gifted. This purpose implies a docent and a disciple but neither a teacher by profession, nor class nor course nor recitation nor examination. It can be fulfilled only by a return to the natural sequence of question and answer between pupil and instructor. The order is reversed in the attempt to teach classes in courses. The education of the school consists in answering questions before they are asked. Education really efficient consists in letting answers follow questions. This is the method of all the greater teachers of mankind. The distinction lies between collective teaching, compelled to aim at examination, and individual teaching, impelled to aim at explanation. The method of examination disregards, the method of explanation observes, the mental principle according to which we see only what we are looking for. It is the question in the mind of the learner that makes what he learns part and parcel of his mental equipment. The preliminary act, that of the delivery of the message, may be compared to the sowing of seed, in itself a barren deed. Education proper does not begin until the seed germinates in the arrest of some pupil's attention. The question follows, not as in the school, from the teacher, but from the pupil; and the answer to the question, not as in the school, given by the pupil, but contributed by the teacher, is the fostering care under which the seed once germinated may bring forth, some thirty, some sixty, some an hundred fold. The use of this natural method hampers the school in discharging its obligation to graduate; but forwards the museum in discharging its obligation to educate. The highest achievements of men at once mature and especially gifted are what the museum has to impart; and the watchword of its docent task must be: "He that hath ears to hear let him hear." Uttered on behalf of beauty, this summons has the same universal range it had when first spoken. The museum offers itself as docent not to a privileged few, but to every one according to his points of contact with the treasures it displays; and such points of contact, of one or another kind in infinite variety exist in every one. Amiel has said: "The supreme finesse in teaching consists in knowing how to suggest; and for this the teacher must divine what it is that interests."³ The museum cannot teach

³ *Journal Intime*, i, 203.

under all conditions, but alone when one or another interest is awake in one or another visitor. In the nurture of these individual interests lies its office as docent.

The inappropriateness of school methods—the professional instruction of a class in a course by recitations and examinations—to this office manifests itself in four ways. First, in the dulling of the sense of perfection in the docent representatives of the museum. The hard intellectual labor of applying halfway standards to undeveloped minds inures the spirit to imperfection; and whoever the disciples and however taught, the docent function cannot to good advantage be performed as an exclusive office. The education given by a museum of art should always be the partial occupation of persons engaged also in productive labor in competition with equals. Even the whole body of those whose daily duty it is to keep and augment and study its collections may not suffice for the work. The appeal of every object of art is to the spiritual kin of the artist, and he may often lack blood relatives on the staff. Is any outsider available to whom the work speaks in a mother tongue, and who can to practical effect speak of it to others, the museum must seek him also as its representative. Only thus can the sense of perfection, which is the condition of the understanding of a work of art, spread from its teachers to their hearers.

Second, the use of school methods by a museum misdirects its docent work. School methods are adjusted to the needs of youth; works of art are not. They were not made by children, nor, unless by exception, for children; and no aid can enable children to comprehend them fully. Carlyle's description of a boy's awakening to the beauty of nature applies still more pointedly to the beauty of art. It was "still a Hebrew speech for me; nevertheless I was looking at the fair illuminated Letters and had an eye for their gilding."⁴ The museum that treats its docent office as a duty chiefly owed to youth stints the children of a larger growth who could best profit by its instruction. Dr. Goode writes of museums in general: "I should not organize the museum primarily for the use of the people in their larval or schoolgoing stage of existence. . . . Schooldays last, at the most, only from five to fifteen years, and they end with the majority of mankind before their minds have reached the stage of growth most favorable for the reception and assimilation of the

⁴ *Sartor Resartus*.

best and most useful thought.”⁵ School classes marshalled through museum halls may afford gratifying statistics, but the invisible census of educational result would make the judicious grieve. The practice in museums of art has the same foundation and the same limitations as the attempt to make monuments of literature into subjects of school instruction. Jules Lemaitre has written: “The soul of a little child well-endowed is nearer Homer than the soul of this or that bourgeois or this or that mediocre academician.” The remark accuses modern life, both the business and the scholastic life, of destroying the freshness of feeling and naïveté of apprehension which inspired the *Iliad* and the *Odyssey*. Freshness and naïveté are indeed conditions necessary for any understanding of a work of art; but they are not conditions sufficient for its assimilation. The soul of an artist can be evoked from his work only by his spiritual peers. Dante addressing Virgil says:⁶ “Thy noble words honor both thyself and those who hearken to them.” But school boys since have seldom hearkened. Many, like Byron, lose even the capacity to hearken.⁷

Then, farewell, Horace; whom I hated so,
Not for thy faults but mine; it is a curse
To understand, not feel, thy lyric flow,
To comprehend, but never love, thy verse.

An Indian saying compares the artist to the moon which can draw the sea but makes no appreciable difference in the level of a well; and, it may be added, can move neither if frozen. The dulling of the sense of perfection which handicaps the teacher by profession needs no proof more irrefragable than is given by school editions of many literary classics. To attempt to put within adolescent grasp masterpieces embodying the utmost reaches of thought and refinements of expression, the fruit of the richest experience, is treachery to art in the museum as in the class in literature. The practical necessity of expurgation in both cases should be warning enough of the unwisdom of the enterprise. To the adolescent the sex-impulse is but just beginning the long course of its irradiation through the whole of life which fills the consciousness of the adult with ineffable echoes “from Heaven

⁵ G. Brown Goode: “The museum of the Future.” Annual Report Smithsonian Institution, 1897, part ii, p. 249.

⁶ *Inferno*, ii, 113/4.

⁷ *Childe Harold*, Canto iv.

across the World to Hell"—as Goethe describes the action of Faust.⁸ To place before a boy or girl a work of art containing, as most do, ingredients from this all-compelling and all-comprehending fact, is to invite its misunderstanding. Whether the process may not morally weaken also is often an open question. There is solid psychological ground for the objection, intemperately voiced from time to time by a few fanatics, to indiscriminate museum visits by school classes. The peril should not be blinked by museum authorities, but should suggest the inquiry whether the whole "educational racket"—as the profane might term the attempt to turn school children into habitués of museums—does not rest upon an assumption due simply to mental inertia—the assumption, namely, that whatever the adult can assimilate to his profit, can and should be presented and expounded to the young.

Third, the use by a museum of school methods devitalizes its docent work. The purpose of the docent is to lead his disciples on to enjoyment. A work of art is the embodiment of a creative joy, or as a work of art it is worthless, and to get it enjoyed as it was made to be enjoyed is the be-all and the end-all of museum instruction proper. The purpose of the teacher is to impart knowledge; a divergent aim, and under school conditions in a measure incompatible. The "Cicerone" of the Swiss critic Burckhardt in its original form was the written discourse of a docent-at-large in Italy. The docent purpose is exactly expressed in the sub-title of the volume—"Eine Einleitung zum Genuss der Kunstwerke Italiens": "a leading-on to (or introduction to) the enjoyment of Italian art." But in posthumous editions the accumulated erudition of many editors, succeeding the free play of a sensitive mind, obscures to the reader the happy temper in which it first was written. The scholastic atmosphere is in three ways hostile to the mood of joy. The contagion from the instructor is more or less in default. To guide learners along well-trodden paths of truth is far from the thrilling pleasure that Bacon, after Lucretius, found in standing on its vantage ground. Again, the scholastic atmosphere is an atmosphere of more or less compulsion, and again, of more or less self-consciousness. Collective instruction presupposes uniform exercises, none exactly responding to the needs of any pupil; and the shadow of the pedagogic disapproval chills the spirit turned inward upon the thought of its own relation to a standard.

⁸ *Conversations with Eckermann.*

Unless a museum is to fail essentially in its teaching office, its instruction must be accomplished in holiday mood, without drudgery for the docent, and without tasks or tests for the disciple.

Finally, the use of school methods in a museum fosters a misconception of its docent obligation. Since schools are founded to impart systematic knowledge or practical skill, the museum may easily be thought bound as docent to teach the history, principles, and practice of the arts it represents, or even to exert a commanding influence on their current development. Yet both ideas are misconceptions, the first excusable, the last egregious. As a permanent public exhibition a museum is bound to see that its community has access to means of understanding its exhibits. But the teaching of the various disciplines they illustrate, theoretical and practical, is a wholly different business, without basis either in *gardant* or *monstrant* functions. The mistake of confusing it with them is excusable because the obligation to see that works of art are publicly understood has awaited the creation of institutions to preserve them for public benefit. Before museums existed the artistic public, the spectator, the other half of the incomplete being we call an artist, had no official representative. Instruction in art meant only the inculcation of art history and theory and the training of embryo painters and sculptors. The fine art of beholding grew wild. Today museums are founded everywhere in this country in younger communities with only the scantiest opportunities for the upbuilding of permanent collections of fine art. So placed a museum becomes less an exhibition than a center for artistic interests of all kinds; and its docent office presents itself as the duty of theoretical and technical instruction. Nevertheless, the condition is ephemeral, the sign of an undeveloped machinery of civilization. It joins functions alien in method and scope, and in a measure antagonistic. The museum as docent teaches objects; it instructs toward its exhibits. As the purveyor of general knowledge about art, it teaches subjects; it instructs from its exhibits. Again, a museum official's duties cover many fields beside the history and theory of art; and the history and theory of art cover many fields beyond the collections in his care. A further radical difference separates an exhibition from a school of practice. The one belongs to the contemplative life; the other to the active life. The museum is the home, not of the artist—the creator—but of the critic—the spectator. The museum is catholic in spirit; the technical school separatist. The judgments of artists, one upon another, are, as

Stendhal suggested, so many "certificates of resemblance."⁹ Technical instruction tends to make the museum one-sided; the museum to make technical instruction superficial. These are the conclusions of experience. Of the combination of other functions with that of the museum, Mr. Hedley writes: "Museum evolution tends toward specialization; the narrower its limits, the higher the grade an institution generally reaches."¹⁰ Of museum buildings Dr. Pazaurek writes: "It is a question seriously to be discussed whether in planning art buildings *de novo* the union of school and museum, by some thought absolutely essential, is really to be recommended. Experience seems often to teach otherwise, for where they have been under one roof either one or other has suffered. . . . Either the museum has flourished and the school vegetated in secret, or—under another management—the school has taken a great start while the museum has sunk to the level of a neglected school-collection. When this subject is considered dispassionately and thoroughly, these twins that only too easily grow together will in many cases be separated betimes, and two entirely distinct buildings erected."¹¹ From this counsel, as from the principles involved, the inference is that while freely offering its aid to schools, both theoretical and technical, the museum will best perform its essential duty under separate management.

The other misconception of the docent office of museums—that which assigns them the high duty of presiding over the artistic production of their time and place—rests upon a beclouded notion of how the artist works. He sees through other eyes only to use his own to better advantage thereafter. Only in the measure in which he can take up into himself what others have wrought will his own work bear comparison with theirs. To guide him after preparatory years would be a fatal impertinence in any institution. These are commonplaces of the psychology of fancy, illustrated in the past at every alternation of artistic decadence and rebirth. Lowell writes of "the fact, patent in the history of all the fine arts, that every attempt at reproducing bygone excellence by external imitation of it, or even by applying the rules which analytic criticism has formulated

⁹ *Histoire de la peinture en Italie*, ii (Index).

¹⁰ Charles Hedley: *Museum Administration in the United States*, Miscellaneous Series, viii, 1913, Australian Museum, Sydney, p. 30.

¹¹ G. A. Pazaurek: "Museumsbauten," *Wiener Bauindustrie Zeitung*, Jahrgang 20, no. 40, 1903.

from the study of it, has resulted in producing the artificial and not the artistic."¹² The return of the artist to nature means a transition from the contemplation of that which has pleased others to the discovery of that which pleases himself, and out of this immediate joy every viable product of fancy springs. Museum officials as arbiters of what he should paint or carve would be even more hopelessly out of place than students of literature as arbiters of what he should write. Museums have no mission to make the fame of artists. They are founded to secure it when made by the interested public.

The docent office of the museum, conditioned by these results, thus outlines itself. Mindful of its purpose to aid toward the spiritual assimilation of some of the highest things, it should aim not at attainment, but at progress, not at graduation but at education. It should be carried on, not as the sole office of a few persons, but as the duty on occasion of many chosen representatives. It should address itself chiefly to minds already mature and only under restrictions to children. It should be undertaken in the spirit of free intercourse, not in that of compulsion, in the spirit of play and not of work, seeking to offer not what the docent wants to teach but what the spectator wants to know. It should not ally itself with technical instruction, and above all should renounce the ambition to control the productive artist whether through patronage or criticism.

What then shall the museum as docent say? Of what subject matter shall its speech consist? Let us take as a guide the words in which a living poet leads on his readers to the enjoyment of a poem by a foregoer. Having the work of art itself before us we can follow his method as we could not were we to quote the exposition of a picture or a statue.

The introductory chapter of M. Auguste Dorchain's volume "*L'Art des Vers*,"¹³ instead of beginning at once the technical study of versification to which the book is to be devoted, essays by an example to quicken the reader's sense of the nobility and power of poetry. Before seeking to impart a knowledge of the art, the author seeks to awaken a love of it.

Compose yourself a moment. Close your ears to the noises which rise from the street; forget some of your petty cares; let subside within your soul like dregs everything which since you woke has cumbered, defiled, or at least dissipated

¹² J. R. Lowell: *Literary Essays*: Swinburne's Tragedies.

¹³ Paris, 1905.

your mind—the reading of a useless newspaper or empty book, trifling talk, an idle call. Then go to your bookcase; take from its shelf the *Orientales* of Victor Hugo; open it at the thirty-seventh number; and, deliberately articulating each syllable, observing each period and comma as you would the rests and glides of a musical notation, read this poem in two strophes:¹⁴

EXTASE

J'étais seul près des flots, par une nuit d'étoiles
 Pas un nuage aux cieux, sur les mers pas de voiles.
 Mes yeux plongaient plus loin que le monde réel.
 Et les bois, et les monts, et toute la nature,
 Semblaient interroger dans un confus murmure
 Les flots des mers, les feux du ciel.

Et les étoiles d'or, légions infinies,
 À voix haute, à voix basse, avec mille harmonies,
 Disaient, en inclinant leur couronnes de feu;
 Et les flots bleus, que rien ne gouverne ni n'arrête,
 Disaient, en recourbant l'écume de leur crête:
 —C'est le Seigneur, le Seigneur Dieu!

M. Dorchain then examines each line:

J'étais seul près des flots, par une nuit d'étoiles

In this first line, which could not be imagined more perfectly simple, the whole scene is already evoked and established; the man, the place and the hour. And this line, delayed in the middle by a considerable pause, and indefinitely prolonged as by an organ point, thanks to the final word *étoiles*, is all-sufficient in itself to balance any developments with which it might please the poet to follow it. Suppose a moment that he had begun the poem thus:

Près des flots j'étais seul, sous un ciel étoilé

This would have the same sense, yet there would be left nothing, absolutely nothing, of what could be called poetry. *Flots* and *étoiles* are the two essential

¹⁴ The poem may be verbally rendered as follows:

I was alone by the waves on a starry night
 Not a cloud in the skies, not a sail on the seas.
 My eyes saw beyond the real world.
 And the woods, and the mountains, and all nature
 Seemed to question, in a confused murmur,
 The waves of the seas, the stars of the sky.

And the golden stars, infinite legions,
 With voices loud and low, in a thousand harmonies,
 Answered, bending their crowns of fire;
 And the blue waves, that nothing governs nor stays,
 Answered, curving the foam of their crests:
 It is the Lord, the Lord God!

words of the poem, those whose apposition and opposition are to form its whole architecture. The word *flots* falls on the hemistich (halfway point) only in the line of the master, and the comma which follows separates the two elements, sea and sky. In the supposed verse, in the second half, the words are hard in sound, and hammered out uniformly in each of their syllables *sous-un-ciel-é-toi-lé*. In Victor Hugo's line, in the second half, thanks to the *e* mute of *une*, and to the fascinating alliteration formed by the two successive *ns*—*une nuit*—the voice glides on easily, to rest and dilate upon the second syllable of *étoiles*, and to die away finally in prolonging the mute syllable which ends the word and the line.

J'étais seul près des flots, par une nuit d'étoiles.

Only compare them!

Going on to the second line: will the poet try to define, by a detail, by something noticed and depicted, the picture formed by the first line? Another would not have failed to do it. But Victor Hugo does just the contrary; he does not add but cancels suggestions already given.

Pas un nuage aux cieux, sur les mers pas de voiles.

For he wants to bring us as quickly as possible from the concrete to the abstract, from external to internal things, in order finally to lead us from internal to supernal things. And remark in passing the elegance of this second line, parallel to the first through its central comma, and by the correspondence of the objects described but parallel by inversion, as one may say, because here the sky is in the first hemistich and the sea in the second: a parallelism of two scales, one ascending played by the left hand, one descending, played by the right.

Mes yeux plongaient plus loin que le monde réel.

—the real world being already reduced to its simplest expression by the preceding line. What is the essential word here? It is *plus loin*; and you see that the poet has placed it at the point in the line which is necessarily the most accented—the hemistich.

And now the poet is about to invoke all the voices that he hears with the spirit, just because he has passed beyond the world of sense. But he is already quarter way in his poem; how can he voice them all without destroying its just proportions?

Et les bois, et les monts, et toute la nature

This conjunction *et*, repeated three times proves to suffice by the indefiniteness it adds to the enumeration; twice in the first half of the line for the particular voices, once in the second for the entire chorus. I seem to see the leader of an orchestra, calling, by a sign toward the left, upon the strings; by a sign toward the right, upon the brasses; and then with both arms extended in a broader gesture unchaining all the instruments of the orchestra.

Unchaining them? Rather summoning them, not in all their strength but in all their gentleness, and mute. For these are voices that sing in silence, and as it were, add to the majesty of silence.

*Et les bois, et les monts, et toute la nature
Semblaient interroger, dans un confus murmure*

And here instinctively the poet has used words in which three successive syllables are formed with the letter *u*: that one which it is impossible to sing loud on a high

pitch, that one which cannot be pronounced otherwise than with compressed lips, and by hardly uttering a sound.

*Semblaient interroger dans un confus murmure
Les flots des mers, les feux du ciel*

Try a moment to lengthen this line out to the measure of the others; by saying, for example:

Les flots profonds des mers, les feux légers du ciel

Marvelous! It seems as if in adding these epithets, instead of lengthening it, we had shortened it. It is longer in the matter of time, and smaller for the imagination, for thought; for with these parasitic words it no longer awakens any idea of grandeur. As it was, on the contrary, reduced to the four parallel substantives which are the framework of the strophe, see how it girds up the strophe by tying the last line to the first, and how it concludes it by concentrating it.

But we are already half way through the poem; and the theme of it has only been set forth. The poet has only six more lines with which to bring it to its conclusion, when one would think it would take several more strophes. Not at all. Six lines will answer. See, the poet has not let drop the initial movement. He has indeed put a period at the end of the first strophe, but here he is starting off again with the conjunction *et*, thereby linking the second strophe to the first, and even beyond the terminal point of the latter, rejoining the line in which already it is found three times:

Et les bois, et les monts, et toute la nature

The two strophes are no longer two, but a single musical phrase, destined to broaden and grow in sonority and majesty up to the end.

*Et les étoiles d'or, légions infinies.
À voix haute, à voix basse, avec mille harmonies*

This second line, by a proceeding natural to poetry, passes from one sense to another; the visual impression has become an auditory one. The waves and the stars must respond to the woods and the mountains that have questioned them, and they need a voice. The stars shine more or less brightly according to their distance and size, and they form the groups we call constellations. Well, the more or less intense scintillation of the stars becomes voices more or less sonorous, and the thousand figures of the constellations become a thousand harmonies, perceptible no longer to the eyes but to the ears:

*Et les étoiles d'or, légions infinies,
À voix haute, à voix basse, avec mille harmonies
Disaient, en inclinant leur couronnes de feu*

What do they say? Will their answer fill the remaining lines? No, that would leave out the answer of the waves, and rupture the whole equilibrium of the poem. By a boldness unexampled in poetry, and perhaps in language, by an inspiration truly sublime, the poet arrests his phrase then and there, leaves it hanging as it were in the void, and descending from the sky to the sea, seeks in turn the response of the waves, to combine it with that of the stars in a stupendous unison, by means of the repeated word *Disaient*; and to swing them together, like the mingled smoke

of two censors, toward Him, whose name by a last artifice he delays to utter until the final line, in order that it may be the last word of this last strophe, as He is in the poet's eyes, the last word of creation and humanity.

*Et les flots bleus, que rien ne gouverne ni n'arrête
Disaient, en recourbant l'écume de leur crête
C'est le Seigneur, le Seigneur Dieu!*

The three similes with which this exposition is adorned are the involuntary contribution of a poet, not the deliberate choice of an expositor. M. Dorchain gives more than an exposition, but like a good docent, also leaves other patent details to be discovered by his disciple. The poem describes a question and its answer, the question wholly contained within the first strophe, the second strophe wholly devoted to the answer. There is a fifth conjunction *et* which binds the answer of the waves to the answer of the stars, as that which precedes binds both to the question of the woods and mountains. The phrase "confused murmur" seems to lay bare the genesis of the poem in sounds of the wind through trees and over heights that fell on the poet's ear like the voice of the land in a question. In the strophe devoted to the answer, the epithets chosen for the stars and waves are not indifferent adjectives but those which display them in their proper and contrasted colors, gold and blue. As stars but twinkle, while waves crumble, so the poet fancies the one but bending while the others curve downward as if prostrating themselves. The two actions, contained and abandoned, correspond to the heavenly peace and the earthly turbulence of which sky and sea are accepted representatives. The reason for dignity on the one hand and humility on the other is suggested in describing the stars as crowned heads moving in order, and the waves as unruly subjects, whose anarchic fury is emphasized by the position of the word *rien* at the hemistich of the line. The little poem is a consummate gem, and turn it as we may, new facets dazzle us with their precision and brilliancy.

A first doubt that rises to the mind in considering this exposition lays an axe at the root of the whole theory of the docent office. Is it not to destroy the power of a work of art to make it the subject of open conference? To point out sources of joy acts admittedly to dry them up. The mental law by which pleasure vanishes under reflective analysis has been a tale retold in all ages—in antiquity by the story of Cupid and Psyche, in the middle ages by stories like that of Lohengrin and Elsa. It would appear then a folly to attempt by any verbal comment on a work of art to lead another on to joy in it.

Schiller's lines

Mit dem Guertel, mit dem Schleier
Reisst der schoene Wahn entzwei!¹⁵

are then a parable; and the nearest to a work of art is he who apprehends it from afar. Without question the mood in which a disciple is left by any exposition differs materially from the mood which the artist has sought to convey by it. No exposition is more than a skeleton of complete assimilation; and none, moreover, of through traffic with the artist's mind, but a traffic by change is trains with all its possibilities of error. Yet every pertinent exposition contains elements of real assimilation; nuclei of understanding which when we turn to the work again and forget them may lead toward it. The wind of doctrine, while it dampens the fire kindled by the artist, fans sparks therein from which, when it dies away the whole may again spring into flame. The full truth seems to be that although analysis temporarily deadens appreciation, it tends to drop out of mind, while the understanding which it both quickens and adulterates tends to remain. Within closely guarded limits, only to be observed by a spirit of instinctive reverence, it would appear then that the docent office has a real, if modest, right to exist.

M. Dorchain's exposition is a guide to the docent as well by what it omits as by what it includes. It gives nothing of Victor Hugo's personal history, of his time, or of the special circumstances under which the poem was written. These all belong to the real world; the poem to one "that never was on sea or land." M. Dorchain might have begun thus: "It is a noteworthy fact that the eminence of Victor Hugo (1802-1885) as a lyric poet was undisputed from the beginning, while his novels and plays were each the object of a violent polemic. His first wide reputation was gained by the publication in 1829 of the volume entitled *Les Orientales*—in effect a plea for the independence of Greece—from which the poem about to be examined is taken. With regard to the scene there portrayed, it is related of the poet, etc., etc., etc.," all of which items serve only to domesticate us before the looking-glass through which the poem aims to translate us. An English workman, a passionate admirer of Tennyson, urged to ask an introduction to the poet, exclaimed, pointing upward: "You can't reach Tennyson! He lives there!" Longfellow once

¹⁵ "Das Lied von der Glocke." ("With the girdle, with the veil, the fair illusion falls in twain.")

aptly compared a poet in his life and in his works with a lighthouse by day and by night. We do not spend time over the lighthouse buildings if our aim is to pick up its beam.

M. Dorchain, again, does not give us generalizations about the poem as a whole, but observations upon its details. The one method compares with an ignorance of the work of art discussed which at once implies and engenders indifference to it; the other demands an acquaintance with it which at once presupposes and communicates enjoyment of it. M. Emile Faguet writes of literary criticism: "General ideas and philosophical considerations lead one around but not into great writers. They can throw a little indirect light on great works, but they chiefly divert and distract from them. *A propos of* a great writer is not *of* him; but rather a respectable excuse for saying nothing *of* him. Criticism by generalities is rather a means of shirking the task than of undertaking it; and rather a means also of setting one's self forth than of interpreting the writer that one is supposed to have read and to want to have others read."¹⁶ In the field of the objective arts, the histories are a mine of illustrations. Two identical and empty generalizations are the sole words (in translation) of one work of established authority upon two radically unlike masterpieces of sculpture—the famous equestrian statues of Gattamelata and Colleoni. One is "full of energetic character and bold life;" the other is "characteristic to excess but full of life and power." Not to have been struck by their difference is not to have penetrated either. Nor does the phrase "absolute relaxation of sleep" applied in the same volume to Michel Angelo's figure of "Night" penetrate the meaning of an attitude in which one hand has already slipped from beneath the forehead and the elbow is in the act of gliding down the thigh. The figure has been compared to the restless "Ariadne" of the Vatican, and is even more unrelaxed. Plainly, in this standard book, the broad stroke was used because either congenital incapacity or limitations of a mistaken task hindered the use of the fine. Generalities may be good servants in the docent office but they are bad masters.

M. Dorchain's example again teaches that the docent must very rarely praise directly. To affirm that something is beautiful is to announce that the speaker takes pleasure in its contemplation. The docent either cannot or can point out sources of that pleasure. If

¹⁶ In *Les Annales*, no. 1591, December 21, 1914.

he cannot, the announcement will not tend to awaken it, but rather will emphasize its lack in the disciple, either pique him, and dispose him away from enjoyment or invite him to sham thereafter a pleasure which he does not feel. If the docent can indicate its origin, this is his business, and the preliminary statement of his own good fortune is for the most part a gratuitous futility. To awaken a sense of beauty it is essential to proceed by setting causes in action, not by commanding their effect. If the docent's enthusiasm is real—and if not he is no docent—it will pierce through the soberest language he may choose. The familiar history of art already quoted again offers examples of what to avoid. The following forty-six words constitute one-quarter of the whole number devoted in this volume (in translation) to the Sistine Madonna: "wonderful form—glorious raiment—heavenly apparition—lovely angel-faces—majesty of his eyes—saintly Pope—lovely demeanor—graceful head—revelation of power and glory—enchancing angel-boys—last touch of beauty to this magnificent work—deepest thought—profoundest insight—completest loveliness—the apex of all religious art." In all M. Dorchain's exposition on the contrary there are but four phrases which can be called open praise. He speaks once of the "fascinating" alliteration in *une nuit*; again of the "elegance" of the second line; again of the whole poem as "destined to grow in sonority and majesty up to the end;" and finally of the suspension produced by the repetition of the word *disaient* as an inspiration "truly sublime." All else in the long analysis is a plain description of the make of the two stanzas, yet conceived with an admiration so ardent that its contagion is irresistible.

The docent must be even more circumspect in the use of dispraise either direct or indirect; and M. Dorchain is again an example to follow. He tells us neither that the poem is (or is not) of Victor Hugo's best, nor (unless by a single playful hint) that Victor Hugo is the greatest of French lyrists. Such statements are rife in all descriptive books on art, full of references to its blossoming and decadence. Yet they convey barren statistical information, empty of all illuminating force. They put before the mind a simple quantitative picture made up of heights and depths. The sole pointer they offer a disciple may be thus expressed: "A given amount of attention will be best repaid by this work or this artist." To which three rejoinders are in place: first—Such is your opinion, but who will guarantee its justice? Yesterday proclaimed Murillo the greatest Spanish painter; today proclaims Velasquez. Second, admitting the

infallibility of the claim you represent, what are the merits that make up this matchless sum? Double stars do not constitute a guide book. The feast of which we also wish to partake, you point us to, but do not set before us. It has been acutely remarked that critics sometimes "use works of art only as a stimulus to their memories of related objects." Their minds are so full of relations that they are incapable of apprehending the things between which the relations subsist. Third, supposing your opinion infallible, and the feast partaken, are there no other viands of the spirit spread on other tables? Toward these your words of indirect dispraise do not invite us; they rather disillusion us about them. When you call one stage of art still imperfect, or another past its prime, we are vexed with the question—"What more?"—when you call another the highest, with the equally disappointing query—"Is this all?" M. Dorchain permits himself two comparative judgments, neither referring to other poetry generally, but to specific lines of his own composition. In the transposed first line and the lengthened sixth line he gives us the materials for a judgment, and asks us to render it for ourselves. This method escapes all three of the faults of the customary statistical procedure. It does not claim infallibility; it minutely describes the particular merits it claims; and the lines dispraised are not the work of another poet, but inventions for the occasion as *corpora vilia* of comparison.

Another pitfall of artistic exposition is wholly avoided by M. Dorchain. The docent must not fancy it any duty of his to teach the laws of beauty. In so doing he would commit a psychological solecism of the first order. A disciple may easily think that if he only knew the general principles according to which certain things give pleasure he would be armed to perceive their beauty; and a docent may be inclined to ask of what else can a course of preparation for the enjoyment of a work of art consist than a discourse upon the laws of beauty as exemplified therein. Yet nothing could be more useless and in fact prejudicial to the docent aim. It is useless because there is no causal connection whatever between abstractions and the phenomena they collate. To inculcate a mental law does nothing to bring about its fulfilment. What fulfils it is the presence in the mind of the causes whose effect the law formulates. Does it help us see jokes to learn that the phenomenon of the ludicrous is due to a datum unexpected under a certain interpretation of circumstances which prove to have another interpretation in which the

datum becomes expected? Yet this is the content of theories of the Comic. In the instance of beautiful things, it is the apprehension of those aspects of them that give pleasure which furnishes the *why* of the beauty of the work to us. The generalization itself according to which they do so has no such power, and our ignorance of it will be no handicap to our enjoyment. A knowledge of it, on the contrary, will be such a handicap. It calls the mind away from the concrete object, the bearer of the artist's thought, to a region of abstract and colorless idea in which he has had no part, and in which if we wish to follow him we will take no part. In M. Dorchain's exposition, as was to be expected, the enunciation of laws of beauty is conspicuous by its absence.

The chief positive factor in effective exposition is the labor of directing the disciple's attention upon vital elements in a work of art, of ensuring that it is really perceived in detail, and taken in in its entirety. Equally important in a negative way, and in practice naturally mingled with it, is the labor of clearing away difficulties of comprehension.

Victor Hugo's lines are so plain that M. Dorchain has almost no difficulties to elucidate. Without him we might possibly have mistaken or ignored the reference to brighter and fainter stars in the "*à voix haute, à voix basse*," but all else is clear and we are left to ourselves to understand it. In most other poems there would be far more to explain, and in many there would be insoluble enigmas. It is hardly too much to say that the first contact of any one with any museum object—any picture, any statue, any fragment of architecture, any product of minor art—has its share of the disagreeable state of mind we call bewilderment. To be bewildered over a thing is to make unsuccessful attempts to understand it, and here as everywhere ill-success is not a pleasure but a pain, lighter or severer as the case may be. Bewilderment continued becomes more and more a load on the spirits. Failure to understand one feature after another in the work we are inspecting first produces boredom and then exasperation with it—both of them moods which are to the creative joy of the artist as oil is to water. It is the business of the docent to prevent this untoward outcome at all hazards; but as evil is always best overcome with good, the negative effort will not be a labor by itself, but a by-product of the labor of stating the right interpretations at once and before they can be missed by the disciple. The main task of the docent is therefore an interpretation which shall at the same time be an explanation.

His general method will consist, as M. Dorchain's does, in going over the work of art in detail and in review, and making sure that it is thoroughly apprehended as the artist would have it, both by eye and mind. This ideal is rarely even approached. Why are not Michel Angelo's expressions of the fop in his statue of Adonis and the sot in his statue of Bacchus matters of common remark? Because students of him do not look at his works. The docent is one to whom "the visible world exists," as it did to Théophile Gautier; and who seeks to make it exist to others. By a convenient distinction the purpose of an artist may be divided into a sensuous and an imaginative intention. He may mainly, or wholly, aim to give the beholder certain sensations in a certain arrangement, to which may be added almost invariably the emotional mood which these sensations awaken. Or he may mainly, though never wholly, care to impart the inferences which are naturally drawn from the forms and colors which make up his work as an object of sense. The first alternative is that of direct, or free beauty, of which the cardinal exemplar is music; the second, indirect or representative beauty, of which the cardinal exemplar is literature. The direct element is essential also to belles lettres, especially to poetry, as the preamble to M. Dorchain's exposition indicates. In the objective arts—alone represented in a museum—the elements of sense and imagination are more nearly equalized, one or the other predominating as the artist's temper dictates. Whistler's "Nocturnes" and "Arrangements" illustrate in painting the gravitation toward musical structure which Walter Pater finds in all the fine arts. Interpretation by a docent will therefore not aim exclusively, or even in many cases mainly, at making plain to a disciple the so-called "story" of the picture or the statue. But he will include both elements if he take care to see that every vital line and surface and shadow and tint is at least perceived by the disciple; and shall be understood as well, if he divine an intention in the artist going beyond the sense impression to its imaginative fruit. He must say not only "the shadows gather here" or "every tone in the picture is reddened" but "an endless plain stretches beyond, with occasional glimpses of the sea;" or "the saint is Catherine and the wheel a symbol of her martyrdom." By this guidance the burden of bewilderment will be lifted, and the work of art seen with that degree of minuteness, breadth and deliberation through which alone it can yield its impression, and which, nevertheless, is habitually denied it even by those who aspire to speak and write. Thus only are works of art

both recommended and taught. The disciple grows into the other half of the incomplete being we call an artist; and by his beholding gives the work a new lease of life in another spirit.

The experience of docent work in a museum suggests two practical rules. The essential office of the docent is to get the object thoroughly perceived by the disciple. Hence, draw attention *to* the object first; talk *about* it afterwards, and only if occasion offers. In the words of François Coppée:¹⁷ "Voir d'abord; ensuite, savoir." Again, the admiration of the docent is like the latent fire of a match, imprisoned in his head, and not effective without an interlocutor as igniting surface, and even an auditor beside as tinder. When these are seen to in advance, there will nearly always be an extended blaze. Hence, let the docent of a group provide himself at the start with a questioner (to be kept within bounds) and a hearer.

The official recognition by museums of the duty of oral instruction upon their contents dates from very recent years. The initiative was taken by a museum of art.¹⁸ Twenty years ago in Boston the interpretation of museum exhibits by museum officers was under discussion at the Museum of Fine Arts. Expert guidance in the galleries had already been privately advocated, and in the following year, 1896, the Trustees consented that volunteer representatives of the Twentieth Century Club of that city should meet visitors in the galleries of casts to give information about the sculptures shown. The experiment was carried on for three months under the supervision of an officer of the Museum, who reported to the Trustees recommending that if continued the service be made official. For ten years this was impossible. The studies and plans for the new building of the Museum fully absorbed the energies of the administration. In June, 1906, the Museum Bulletin at last announced the project, and applied the forgotten English adjective "docent" to the future duty. Meanwhile a similar effort had been undertaken by volunteers at the Louvre in Paris. In remarking upon it in December, 1901, the *Chronique des Arts* suggested that officers of the museum should conduct the instruction. "Thus the public would learn to see better, and to comprehend better, from those to whom long familiarity and laborious achievement have given the privilege of becoming the intimate friends of our masterpieces." Two years

¹⁷ *Souvenirs d'un Parisien*.

¹⁸ *Museumskunde*, vol. iii, 1907, p. 186.

later, in September, 1903, the Mannheim Conference of Museum Officials received a number of reports upon like volunteer movements in German museums. Finally, in April, 1907, gallery instruction was made an official function at the Boston Museum. The Bulletin of that date announced that an assistant in the administration had been appointed, under the title of "docent," to the additional duty of giving visitors in the galleries information about the exhibits. Similar appointments with the name of "museum instructor" followed within a year or two at two museums in New York, one a museum of science—the American Museum of Natural History—the other a museum of art—the Metropolitan. The opportunity of service was welcomed by other museums throughout the country, and the new word "docent" has since become widely accepted among us in the new sense of an official commentator on things shown. From the beginning this term has signified not an official post but an official duty; not a functionary but a function. All of the officers of the Boston Museum, most of their assistants, and many friends have taken part in the service in the eight years since it was begun. In 1910 the plan was taken up in England, and there have since been several appointments under the name "museum demonstrator" in museums in London.

In American museums of art, gallery instruction is one factor in a widespread recent movement for their utilization for educational purposes. Luther is credited with comparing public opinion to a drunken peasant on horseback. Righted on one side it falls toward the other. The rude comparison has an aptness illustrated once more in the history of museum economy. Museums of fine art began by subordinating their rôle of showing to their rôle of keeping. This was the magazine era of museums, when they were built and arranged with chief reference to the preservation of their contents. These were the days of closely restricted access, of crowded rooms and walls, of great cases with multifarious contents, both arranged in each other's way, of light openings insufficient and dazzling. In large measure awakened since to the absurdity of this shortsightedness, museums have inclined toward the other possibility of error: that of subordinating their rôle of showing to their rôle of teaching. To the magazine era has succeeded—notably in this country—a school era, when museums of art are managed with conspicuous reference, if not chief reference, to instruction by means of their contents. This is the day of the employment of public collections as apparatus in school

and college courses, of omnipresent and obtrusive labels, of the obstruction of galleries by copyists and by classes under preceptors, of lecture rooms and class rooms, and of detailed programmes for their use timed to the educational year. The museum of fine art is greeted, in words likewise applicable and likewise inappropriate to the church, as "the crown of our educational system." An end will come in time to this opposite and equally absurd shortsightedness. The primary aim of exhibitions of art is to bring it about that certain artistic intentions shall be apprehended by the spectator of the objects fashioned to embody them. The conservation of the objects and the instruction of the spectator are subsidiary to this purpose; their simple display to him in part accomplishes it. A museum preserves its contents *in order that* they may be taken in by eye and mind; and instructs upon them *in order that* when shown to the eye they may be grasped by the mind. Should it install its contents even to their hurt and without commentary, it would still in a measure attain its purpose; while if it kept them never so safely and interpreted them never so wisely without ever letting them be seen, it would wholly fail in its aim. The museum gardant and the museum docent are means; the museum monstrant an end.

The beginnings of a natural treatment of public exhibitions of fine art may be descried in the subordination by museums of the aims of safe and compact stowage and of didactic effectiveness to the aim of display. When they install fewer objects at once, in more congenial surroundings, with a greater regard for the limitations of the human sight and muscles; when they subordinate labels and other machinery of teaching and recognize that their proper educational office is instruction toward and not from exhibits, and the paramount interests in their keeping those of the adult public, the three functions, gardant, monstrant and docent, will at length take on their definitive status.

The following paper by Prof. Homer R. Dill, director of the museum exhibit of vertebrates at the University of Iowa, was read by title:

A NEW LABEL DEVICE

The objects of this device are, first, to hold labels so that they may be plainly seen and read; second, to prevent them from curling; and, third, to protect them from dust and dirt.

Figure 1 is a perspective view of the device in position to receive the back plate (*D*), a label (*C*), and a protective covering of celluloid (*B*). Figure 2 is a transverse section with a label in operative position.

In both figures (*A*) represents the frame of the holder supported by the foot (*F*), these two parts preferably being made from one piece of metal. The metal plate (*D*) is held in place by the turned edge indicated in the upper frame member and by the catch (*E*). When a label is to be placed in the holder the plate (*D*) is removed. A piece of celluloid or other transparent material the size of the plate

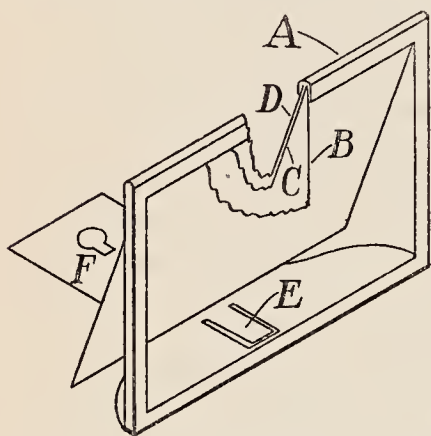


Fig.1

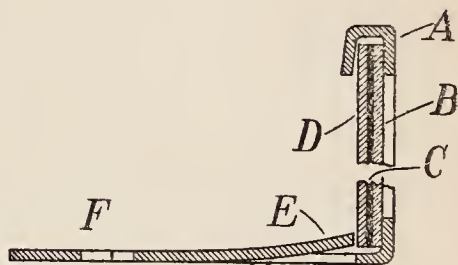


Fig.2

is then placed in the frame. The label is put in place and the plate (*D*) inserted, all being held in position by the catch (*E*) and by the turned edge. To remove the label press down the catch (*E*).

The holder is useful for supporting labels on glass or metal shelves and may be secured to the edge of wooden shelves by means of the metal foot afforded by the lower frame member of the holder, in which there is a slot to receive the head of a nail or screw driven into the lower surface of the shelf.

The following resolution, offered by Mr. Newton H. Carpenter, was then unanimously adopted:

WHEREAS, The scarcity of trained men and women as employees in museum work has long been realized by the American Association of Museums, and

WHEREAS, The members of the Association learn with great satisfaction of the establishment in the State University of Iowa of a course for the training of such employees; therefore be it

Resolved, That the American Association of Museums, in annual meeting assembled, commends this work, and recommends it to its members for their encouragement, cooperation, and patronage.

On motion of Mr. Carpenter, the Association voted to provide on the program of the next meeting for a discussion on "How Museums Can Increase Their Usefulness to the Public."

Mr. Edward L. Burchard suggested that at the Washington meeting special sessions be set apart for technical papers. This suggestion was adopted by the Association.

On behalf of the committee on legislation, Professor Henderson requested the cooperation of the members of the Association in bringing to the attention of the committee matters needing legislative action.

The Secretary expressed his appreciation of the interest shown by the members in planning for the Washington meeting and invited their further cooperation in providing the best program possible.

The following resolution offered by Miss Margaret T. Jackson was then unanimously adopted:

WHEREAS, The scarcity of trained and competent men and women as employees in museum work has long been realized by the American Association of Museums, and

WHEREAS, The members of the Association learn with great satisfaction of the course which is offered in Wellesley College for the training of such employees, therefore be it

Resolved, That the American Association of Museums, in annual meeting assembled, commends this work and recommends it to its members for their encouragement, cooperation, and patronage.

On motion of Miss Margaret T. Jackson, the Association voted that all matters coming before the legislative committee be reported to the Council with recommendation, and that such action be taken by the Council on these recommendations as it may deem wise.

Professor Henderson offered the suggestion that special committees

be appointed by the President to assist the Secretary in preparing the program for the various sessions of the next meeting.

The following resolutions offered by Mr. Henry R. Howland were unanimously adopted:

Resolved, That the hearty thanks of the American Association of Museums be tendered to the trustees and officers of the Colorado Museum of Natural History in Denver; the Deseret Museum in Salt Lake City; the California Academy of Sciences, the Museum of Anthropology, the Golden Gate Park Memorial Museum in San Francisco; the Oakland Public Museum, the Museums of Vertebrate Zoology, Paleontology, and Anthropology of the University of California in Berkeley; and the Leland Stanford Junior Museum in Palo Alto for entertainment and courtesies extended to the Association on the occasion of its San Francisco meeting; and especially to Mr. J. D. Figgins, Dr. J. E. Talmage, Dr. Barton W. Evermann, Dr. Roy E. Dickerson, Mr. E. W. Gifford, Prof. George Barron, Mrs. D. W. deVeer, Dr. Joseph Grinnell, Prof. T. T. Waterman, and Mr. Harry C. Peterson for the cordial welcome and thoughtful arrangements which have made this meeting so enjoyable; also to President Joseph Smith and the Church of Latter Day Saints in Salt Lake City for welcome and entertainment; to the San Francisco Park Commissioners for their hospitality; to the San Francisco Institute of Art for the use of its lecture room; to Mr. Frank C. Havens for extending to the Association the courtesies of the Piedmont Art Gallery, and to Mr. Richard L. Partington, curator of the Gallery for courtesies extended; to Mr. C. L. Greene and ex-Mayor Frank K. Mott for the pleasant welcome extended to the Association at Oakland and to the City Council of Oakland for its entertainment; to President J. C. Branner for the welcome extended on behalf of the Leland Stanford Junior University; to the Palo Alto Chamber of Commerce for its entertainment; and to Mrs. A. B. Spreckels for the yachting trip and reception tendered to the Association.

Before closing the convention President Farrington expressed the appreciation of the Association for the hospitality and entertainment extended by the western members and the hope that a large delegation from the Pacific Coast would attend the Washington meeting in 1916.

There being no further business to come before the convention the Association adjourned, sine die.

Following the formal adjournment of the convention, the members were taken on a launch trip about San Francisco Bay as guests of Mrs. A. B. Spreckels. In the evening Mrs. Spreckels tendered to the Association a reception at which opportunity was given to view her private art collection. This most enjoyable entertainment brought to a close the San Francisco meeting.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, a Vice-President, a Secretary, and a Treasurer, and six other persons designated as Councillors, and these ten shall be members of the Council. The President shall serve for two years, and during the two succeeding years shall be ineligible for re-election to the presidency but shall be an *ex-officio* member of the Council. Two Councillors chosen by the Association shall retire annually, and for one year shall be ineligible for re-election to the same office. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums discussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

REPORT OF THE TREASURER OF THE AMERICAN ASSOCIATION OF
MUSEUMS, PRESENTED AT THE ANNUAL MEETING
SAN FRANCISCO, JULY 6-9, 1915

Balance on hand, May 15, 1914..... \$607.92

RECEIPTS

4 Active memberships for year ending May 15, 1913.....	12.00
10 Active memberships for year ending May 15, 1914.....	30.00
194 Active memberships for year ending May 15, 1915.....	582.00
3 Active memberships for year ending May 15, 1916.....	9.00
1 Active life membership.....	30.00
2 Sustaining memberships for year ending May 15, 1914.....	20.00
49 Sustaining memberships for year ending May 15, 1915.....	505.00
1 Sustaining membership for year ending May 15, 1916.....	10.00
1 Associate membership for year ending May 15, 1914.....	1.00
13 Associate memberships for year ending May 15, 1915.....	13.00
Sale of publications, reprints, etc.....	140.67
Total receipts.....	\$1960.59

EXPENDITURES

1914		
June	1 L. L. Weeks, Assistant Secretary (salary, May)...	\$30.00
June	1 L. L. Weeks, Assistant Secretary (expenses Milwaukee-Chicago meeting).....	113.59
June	1 P. M. Rea, Secretary (expenses Milwaukee-Chicago meeting).....	126.24
June	1 P. M. Rea, Secretary (petty cash).....	20.00
June	1 A. L. Cross (photograph).....	1.00
June	10 Neil Satterlee (reporting proceedings).....	72.40
June	24 Philadelphia Post Office (postage stamps).....	10.00
June	25 Husting & Nowack (printing).....	16.00
July	8 Philadelphia Museums (envelopes and printing)...	1.50
July	8 L. L. Weeks, Assistant Secretary (salary, June)...	30.00
July	24 Daggett Printing Co. (stationery and printing)...	15.75
July	30 L. L. Weeks, Assistant Secretary (salary, July)...	30.00
Carried forward.....		\$466.48
		\$1960.59

Brought forward.....	\$466.48	\$1960.59
Sept. 3 L. L. Weeks, Assistant Secretary (salary, Aug.).....	30.00	
Sept.29 P. M. Rea, Secretary,		
Advance for petty cash.....	\$20.00	
Postage on <i>Proceedings</i>	20.00	
	———	40.00
Sept.29 L. L. Weeks, Assistant Secretary (salary, Sept.) ...	30.00	
Oct. 14 P. M. Rea, Secretary (additional postage and		
freight on <i>Proceedings</i>	27.02	
Oct. 28 L. L. Weeks, Assistant Secretary (salary, Oct.) ...	30.00	
Nov. 6 Williams & Wilkins Co. (1000 copies <i>Proceedings</i> and		
reprints).....	513.87	
Nov.17 P. M. Rea (petty cash).....	20.00	
Dec. 3 L. L. Weeks, Assistant Secretary (salary, Nov.).....	30.00	
1915		
Jan. 5 L. L. Weeks, Assistant Secretary (salary, Dec.)....	30.00	
Feb. 1 Daggett Printing Company (No. 10 envelopes)	3.30	
Feb. 1 L. L. Weeks, Assistant Secretary (salary, Jan.)	30.00	
Mar. 3 L. L. Weeks, Assistant Secretary (salary, Feb.)	30.00	
Apr. 12 L. L. Weeks, Assistant Secretary (salary, March)..	30.00	
Apr. 19 Meyer Frank (printing).....	15.35	
May 3 L. L. Weeks, Assistant Secretary (salary, April)....	30.00	
May 15 A. A. Clinger (services for Treasurer).....	50.00	
	———	
Total Expenditures.....		1406.02
		———
Balance on hand, May 15, 1915.....		\$554.57

W. P. WILSON,
Treasurer.

Examined and found correct:

N. H. CARPENTER,
H. L. WARD,
R. E. DICKERSON,
Auditing Committee.

MEMBERS OF THE AMERICAN ASSOCIATION OF MUSEUMS¹

PATRONS

Huntington, Archer M., 15 West 81st Street, New York City.

SUSTAINING MEMBERS

- Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
 American Geographic Society, New York City.
 *American Museum of Natural History, New York City.
 American Museum of Safety, New York City.
 American Numismatic Society, New York City.
 Arnold Arboretum, Boston, Mass.
 *Art Association of Indianapolis (John Herron Art Institute), Indianapolis, Ind.
 *The Art Institute of Chicago, Chicago, Ill.
 Battle Creek Public School Museum, Battle Creek, Mich.
 Bernice P. Bishop Museum Trustees, Box 466, Honolulu, T. H.
 Boston Society of Natural History, Boston, Mass.
 *Brooklyn Institute Museum, Eastern Parkway, Brooklyn, N. Y.
 Buffalo Historical Society, Buffalo, N. Y.
 Buffalo Society of Natural Sciences, Buffalo, N. Y.
 California Academy of Sciences, San Francisco, Cal.
 *Carnegie Museum, Department of the Carnegie Institute, Pittsburgh, Pa.
 *The Charleston Museum, Charleston, S. C.
 *The Chicago Academy of Sciences, Lincoln Park, Chicago, Ill.
 Cincinnati Museum Association, Cincinnati, Ohio.
 Cleveland Museum of Art, Cleveland, Ohio.
 Colorado Museum of Natural History, Denver, Col.
 *The Corcoran Gallery of Art, Washington, D. C.
 Davenport Academy of Sciences, Davenport, Iowa.
 Department of Archæology, Phillips Academy, Andover, Mass.
 *Deseret Museum, Salt Lake City, Utah.
 The Essex Institute, Salem, Mass.
 *The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
 *Field Museum of Natural History, Chicago, Ill.
 Geological Survey of Canada, Ottawa, Ontario, Canada.
 Germanic Museum, Harvard University, Cambridge, Mass.
 Hispanic Society of America, New York City.
 Illinois State Museum, Springfield, Ill.
 Joseph Moore Museum, Earlham College, Earlham, Ind.
 Mattatuck Historical Society, Waterbury, Conn.
 *Metropolitan Museum of Art, New York City.
 Michigan Historical Commission, Lansing, Mich.
 Minneapolis Institute of Arts, Minneapolis, Minn.
 *Museum of Fine Arts, Boston, Mass.

¹ The asterisk (*) denotes a Charter Member.

Museum of the Grand Lodge of F. and A. M. of Pennsylvania, Masonic Temple, Philadelphia, Pa.

*New York Botanical Garden, Bronx Park, New York City.

*New York State Museum, Albany, N. Y.

Newark Museum Association, Newark, N. J.

Northwestern University, Museum of the College of Liberal Arts, Evanston, Ill.

Peabody Museum, Salem, Mass.

*Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia, Pa.

Pennsylvania State Museum, Harrisburg, Pa.

The Philadelphia Museums, 34th St., below Spruce, Philadelphia, Pa.

Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.

*Public Museum of the City of Milwaukee, Milwaukee, Wis.

Springfield Art Museum, Springfield, Mass.

*University Museum, Department of Archæology, University of Pennsylvania, Philadelphia, Pa.

Wadsworth Athenæum, Hartford, Conn.

*Washington State Art Association, Seattle, Wash.

Worcester Art Museum, Worcester, Mass.

LIFE MEMBERS

Clowes, Herbert, Landscape Modeler, Public Museum of the City of Milwaukee, Milwaukee, Wisconsin.

Crook, A. R., Curator, Illinois State Museum of Natural History, Springfield, Illinois.

Graves, F. P., Graves Private Museum, Doe Run, Mo.

Harris, Norman W., Field Museum of Natural History, Chicago, Ill.

*Henshaw, Samuel, Director, Museum of Comparative Zoology, Harvard University, Cambridge, Mass.

*Holland, W. J., Director, Department of the Museum, Carnegie Institute, Pittsburgh, Pa.

Parrish, Samuel L., Southampton Art Museum, Southampton, Long Island, N. Y.

*Talmage, James E., Director, Deseret Museum, Salt Lake City, Utah.

Thayer, John E., Director, Thayer Museum, Lancaster, Mass.

ACTIVE MEMBERS

*Adams, Charles C., Forest Zoologist, New York State College of Forestry, Syracuse, N. Y.

Adickes, Thomas W., Assistant Curator, North Carolina State Museum, Raleigh, North Carolina.

Aitkin, Helen J., Assistant Curator, Division of Conchology, Central Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

*Akeley, C. E., Taxidermist, Studio at American Museum of Natural History, New York City.

Albrecht, Clarence J., Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.

- Allen, Eleanor C., Artist, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- *Allen, J. A., Curator of Mammalogy and Ornithology, American Museum of Natural History, New York City.
- Alliott, Hector, Curator, The Southwest Museum, Los Angeles, Cal.
- Altmann, William, Assistant Curator, Golden Gate Park Memorial Museum, San Francisco, Cal.
- *Ami, Henry M., Strathcona Park, Ottawa, Ontario, Canada.
- Ashley, William Bevier, Demarest, N. J.
- Atkinson, D. A., Custodian of Reptiles, Carnegie Museum, Pittsburgh, Pa.
- Austin, Thomas L., Curator, Erie Public Museum, Erie, Pa.
- Bailey, Alfred, Student in Taxidermy, State University of Iowa, Iowa City, Iowa.
- Bailey, B. H., Curator, Coe College Museum, Cedar Rapids, Iowa.
- *Baker, Frank C., Zoological Investigator, New York State College of Forestry, Syracuse, N. Y.
- *Barber, Edwin AtLee, Director of Museum, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.
- *Barbour, Erwin Hinckley, Curator, State Museum, Lincoln, Neb.
- Barbour, Thomas, Associate Curator of Reptiles, Museum of Comparative Zoology, Cambridge, Mass.
- Barrett, S. A., Curator of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Barron, George H., Curator, Golden Gate Park Memorial Museum, San Francisco, Cal.
- Bassler, R. S., Curator of Paleontology, United States National Museum, Washington, D. C.
- *Beatty, John W., Director, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- *Bennett, Bessie, Curator of Decorative Arts and Assistant to the Director, The Art Institute of Chicago, Chicago, Ill.
- *Berg, George L., Director, Washington State Art Association, Seattle, Wash.
- Bergeron, Mrs. Eva Rowley, Artist and Photographer, The Chicago Academy of Sciences, Chicago, Ill.
- Berwick, William, Restorer of Documents, Library of Congress, Washington, D. C.
- Bethel, Ellsworth, President, Colorado Academy of Sciences, Denver, Col.
- Block, Maurice, Assistant, Art Institute of Chicago, Chicago, Ill.
- Boyle, C. W., Curator, Isaac Delgado Museum of Art, New Orleans, La.
- Brah, Bernard H., Assistant, Department of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- *Brigham, William T., Director, Bernice P. Bishop Museum, Honolulu, T. H.
- Brimley, Herbert H., Curator, North Carolina State Museum, Raleigh, N. C.
- Brinckley, William J., Assistant, Departments of Geology and Vertebrate Zoology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- *Britton, N. L., Director-in-chief, New York Botanical Garden, Bronx Park, New York City.

- Brock, Clarence L., Director, Houston Museum and Scientific Society, Houston, Texas.
- Brockett, Paul, Assistant Librarian, Smithsonian Institution, Washington, D. C.
- Brooks, Neil C., Curator, Museum of European Culture, University of Illinois, Urbana, Ill.
- Brown, C. Emerson, Curator of Vertebrates, Peabody Museum, Salem, Mass.
- Brown, Charles E., Chief, State Historical Museum of Wisconsin, Madison, Wisconsin.
- Brown, Stewardson, Curator of Herbarium, Academy of Natural Sciences, Philadelphia, Pa.
- *Bryan, William Alanson, Professor of Zoology, College of Hawaii, Box 38, Honolulu, T. H.
- Bryant, William L., Custodian of Museum, Buffalo Society of Natural Sciences, Buffalo, N. Y.
- *Bumpus, Hermon C., President, Tufts College, Tufts College, Mass.
- *Burchard, Edward L., Secretary, Civics Extension Committee, Chicago, Ill.
- Burroughs, Clyde H., Secretary and Assistant Director, Detroit Museum of Art, Detroit, Mich.
- Carpenter, Newton H., Secretary, The Art Institute of Chicago, Chicago, Ill.
- Carrington, FitzRoy, Curator of Prints, Museum of Fine Arts, Boston, Mass.
- Chapman, Frank M., Curator of Ornithology, American Museum of Natural History, New York City.
- Clark, Lotta A., 175 Dartmouth St., Boston, Mass.
- Clarke, John M., Director, New York State Museum, Albany, N. Y.
- Cooper-Prichard, A. H., 350 Madison Ave., New York City.
- Cowan, Robert E., Historian, 867 Treat Ave., San Francisco, Cal.
- Crocker, Anna B., Curator, Portland Art Association, Portland, Ore.
- Cummings, Byron, Director of the Museum, University of Arizona, Tucson, Ariz.
- Cummings, Carlos E., Secretary, Buffalo Society of Natural Sciences, Buffalo, New York.
- Cunningham, Jesse, School of Mines, Rolla, Mo.
- Cushman, Joseph A., Assistant Curator, Boston Society of Natural History, Boston, Mass.
- Daggett, Frank S., Director, Museum of History, Science and Art, Los Angeles, Cal.
- Dahlgren, B. E., Modeler, Department of Botany, Field Museum of Natural History, Chicago, Ill.
- Dana, John Cotton, Secretary and Director, Newark Museum Association, Newark, N. J.
- *Dean, Bashford, Curator of Fossil Fishes, American Museum of Natural History; Curator of Arms and Armor, Metropolitan Museum of Art, New York City.
- *de Forest, Robert W., President, Metropolitan Museum of Art, New York City.
- deVeer, Mrs. D. W., Acting Curator, Oakland Public Museum, Oakland, Cal.
- Dill, Homer R., Director of Museum Exhibit of Vertebrates, State University of Iowa, Iowa City, Iowa.

- Dodge, Charles Wright, Curator of Botany and Zoology, University of Rochester, Rochester, New York.
- Doelle, John A., Superintendent, Houghton Public Schools, Houghton, Mich.
- *Dorsey, George A., Curator of Anthropology, Field Museum of Natural History, Chicago, Ill.
- *Dow, George Francis, Secretary and Curator, The Essex Institute, Salem, Mass.
- Driscoll, Lucy C., Assistant to Director, Art Institute of Chicago, Chicago, Ill.
- Eberhardt, Robert G., In charge Mrs. A. B. Spreckels Museum, 2042 Vallejo St., San Francisco, Cal.
- *Eigenmann, Carl H., Curator of Ichthyology, Carnegie Museum, Pittsburgh, Pennsylvania.
- Elliott, Huger, Supervisor of Educational Work, Museum of Fine Arts, Boston, Mass.
- Emerson, B. K., In charge of Geology, Amherst College Museum, Amherst, Mass.
- Emerson, Mrs. Helen B., Curator, Art Department, Beloit College, Beloit, Wis.
- Evermann, Barton W., Director, California Academy of Sciences, San Francisco, Cal.
- Failing, Henrietta H., Late Curator, Portland Art Association. Address: 617 Johnson Street, Portland, Oregon.
- Fairbanks, Arthur, Director, Museum of Fine Arts, Boston, Mass.
- *Farrington, Oliver C., Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Fenneman, N. M., Professor of Geology, University of Cincinnati, Cincinnati, Ohio.
- Figgins, J. D., Director, Colorado Museum of Natural History, Denver, Col.
- Fisher, William L., Assistant Curator, Philadelphia Museums, Philadelphia, Pa.
- Flint, Sarah G., Assistant in charge of Textiles, Museum of Fine Arts, Boston, Mass.
- Foote, Warren M., Mineralogist, Philadelphia, Pa.
- Forbes, Edward W., Director, Fogg Art Museum, Harvard University, Cambridge, Mass.
- Foster, Helen W., Assistant, Newark Museum Association, Newark, N. J.
- Fox, William Henry, Director of Museums, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Gaige, Mrs. Frederick M., 1109 Willard Street, Ann Arbor, Mich.
- *Gallup, Anna Billings, Curator, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- Gay, Frank Butler, Director, Wadsworth Atheneum and Morgan Memorial, Hartford, Conn.
- *Gest, J. H., Director, Cincinnati Museum Association, Cincinnati, Ohio.
- Gifford, E. W., Associate Curator, Museum of Anthropology, University of California, San Francisco, Cal.
- *Gilman, Benj. Ives, Secretary, Museum of Fine Arts, Boston, Mass.
- Glenk, Robert, Curator, Louisiana State Museum, New Orleans, La.
- Goodale, George Lincoln, Honorary Curator, Botanical Museum, Harvard University, Cambridge, Mass.

- *Goodyear, Wm. H., Curator of Fine Arts, Central Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
- *Gordon, G. B., Director, University Museum, University of Pennsylvania, Philadelphia, Pa.
- Graenicher, Sigmund, Curator of Invertebrate Zoology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Grant, U. S., Curator, Museum of the College of Liberal Arts, Northwestern University, Evanston, Ill.
- Greenman, Jesse More, Curator of Herbarium, Missouri Botanical Garden, St. Louis, Missouri.
- *Greenman, Milton J., Director, The Wistar Institute of Anatomy, Philadelphia, Pennsylvania.
- *Griffin, Delia Isabel, Director, Children's Museum of Boston, Olmsted Park, Jamaica Plain, Mass.
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¹ Died Nov. 15, 1915.

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PORT HURON:

Public Library (*non-member*):

Slenau, Katharyne G., Librarian (*active*).

MINNESOTA

MINNEAPOLIS:

Minneapolis Institute of Arts (*sustaining*):

Jackson, Margaret T., Director's Assistant (*active*).

ST. PAUL:

St. Paul Institute (*non-member*):

Sweeney, Arthur, Secretary (*active*).

MISSOURI

DOE RUN:

Graves Private Museum (*non-member*):
Graves, F. P. (*life*).

KANSAS CITY:

Daniel B. Dyer Museum (*non-member*):
Jacobs, Mrs. Ophelia, Curator (*active*).
Fine Arts Institute (*non-member*):
Sexton, Winifred, Secretary (*active*).

ROLLA:

School of Mines (*non-member*):
Cunningham, Jesse (*active*).

ST. LOUIS:

Educational Museum (*non-member*):
Rathmann, Carl G., Director (*active*).
Missouri Botanical Garden (*non-member*):
Greenman, Jesse More, Curator of Herbarium (*active*).

NEBRASKA

LINCOLN:

Nebraska State Historical Society (*non-member*):
Paine, Clarence S., Secretary (*active*).
State Museum (*non-member*):
Barbour, Erwin Hinckley, Curator (*active*).

OMAHA:

Omaha Public Library and Museum (*non-member*):
Tobitt, Edith, Librarian (*active*).

NEW JERSEY

DEMAREST:

Unattached:
Ashley, William Bevier (*active*).

JERSEY CITY:

Unattached:
Lindberg, Thure H. (*active*).
Macdonald, Angus Snead (*active*).

NEWARK:

Newark Museum Association (*sustaining*):
Dana, John Cotton, Secretary and Director (*active*).
Foster, Helen W., Assistant (*active*).
Kendall, Alice W., Assistant (*active*).

PRINCETON:

E. M. Museum (*non-member*):
Libbey, William, Director (*active*).
Museum of Princeton University (*non-member*):
Silvester, Charles F., Curator of Zoology (*active*).

TRENTON:

New Jersey State Museum (*non-member*):
Morse, Silas R., Curator (*active*).

NEW YORK

ALBANY:

- New York State Museum (*sustaining*):
 Clarke, John M., Director (*active*).

BROOKLYN:

- Central Museum, Brooklyn Institute of Arts and Sciences (*sustaining*):
 Aitkin, Helen J., Assistant Curator, Division of Conchology (*active*).
 Fox, William Henry, Director of Museums (*active*).
 Goodyear, Wm. H., Curator of Fine Arts (*active*).
 Hutchinson, Susan A., Curator of Books (*associate*).
 Morris, Mrs. M. B., Docent (*active*).
 Children's Museum, Brooklyn Institute of Arts and Sciences (*non-member*):
 Gallup, Anna Billings, Curator (*active*).

BUFFALO:

- Albright Art Gallery (*non-member*):
 Sage, Cornelia Bentley, Director (*active*).
 Buffalo Historical Society (*sustaining*).
 Buffalo Society of Natural Sciences (*sustaining*):
 Bryant, William L., Custodian of Museum (*active*).
 Cummings, Carlos E., Secretary (*active*).
 Howland, Henry R., Superintendent (*active*).

NEW BRIGHTON:

- Museum of Staten Island Association of Arts and Sciences (*non-member*):
 Hollick, Arthur, Director (*active*).
 Pollard, Agnes L., Curator (*active*).

NEW YORK CITY:

- American Art Annual (*non-member*):
 Levy, Florence N., Editor (*associate*).
 American Geographic Society (*sustaining*):
 Huntington, Archer M. (*patron*).
 American Museum of Natural History (*sustaining*):
 Akeley, C. E., Taxidermist (*active*).
 Allen, J. A., Curator of Mammalogy and Ornithology (*active*).
 Chapman, Frank M., Curator of Ornithology (*active*).
 Dean, Bashford, Curator of Fossil Fishes (*active*).
 Hood, Ida Richardson, Assistant Librarian (*active*).
 Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology (*active*).
 Kunz, George F., Honorary Curator of Gems (*active*).
 Lucas, Frederic A., Director (*active*).
 Lucas, Jannette May, Assistant, Osborn Library of Vertebrate Paleontology (*active*).
 Miner, Roy W., Assistant Curator of Invertebrate Zoology (*active*).
 Sherwood, George H., Assistant Secretary (*active*).
 Tower, Ralph W., Curator of Books and Publications (*active*).
 Wissler, Clark, Curator of Anthropology (*active*).
 American Museum of Safety (*sustaining*).

American Numismatic Society (*sustaining*):Huntington, Archer M. (*patron*).Wood, Howland, Curator (*active*).Boy Scouts of America, New York City Council (*non-member*):Pollard, Charles Louis, Executive Deputy Scout Commissioner (*active*).Hispanic Society of America (*sustaining*):Huntington, Archer M. (*patron*).Metropolitan Museum of Art (*sustaining*):Dean, Bashford, Curator of Arms and Armor (*active*).de Forest, Robert W., President (*active*).Kent, Henry W., Secretary (*active*).Robinson, Edward, Director (*active*).Museum of the Arts of Decoration, Cooper Union (*non-member*):Hewitt, Eleanor G., Curator (*active*).New York Aquarium (*non-member*):Townsend, Charles H., Director (*active*).New York Botanical Garden (*sustaining*):Britton, N. L., Director-in-chief (*active*).Howe, Marshall A., Curator of Museums (*active*).Small, John K., Head Curator of Museums and Herbarium (*active*).New York Zoological Park (*non-member*):Hornaday, William T., Director (*active*).Russell Sage Foundation, Department of Surveys and Exhibits (*non-member*):Routzahn, E. G., Associate Director (*active*).

Unattached:

Cooper-Prichard, A. H. (*active*).

ROCHESTER:

Municipal Museum (*non-member*):Putnam, Edward D., Curator (*active*).University of Rochester (*non-member*):Dodge, Charles Wright, Curator of Botany and Zoology (*active*).Ward's Natural Science Establishment (*non-member*):Ward, F. Hawley (*active*).

SOUTHAMPTON:

Southampton Art Museum (*non-member*):Parrish, Samuel L. (*life*).

SYRACUSE:

New York State College of Forestry (*non-member*):Adams, Charles C., Forest Zoologist (*active*).Baker, Frank C., Zoological Investigator (*active*).

NORTH CAROLINA

RALEIGH:

North Carolina State Museum (*non-member*):Adickes, Thomas W., Assistant Curator (*active*).Brimley, Herbert H., Curator (*active*).

NOVA SCOTIA

HALIFAX:

- Provincial Museum (*non-member*):
Piers, Harry, Curator (*active*).

OHIO

CINCINNATI:

- Cincinnati Museum Association (*sustaining*):
Gest, J. H., Director (*active*).
University of Cincinnati (*non-member*):
Fenneman, N. M., Professor of Geology (*active*).
Maddox, Robert D., Curator, Medical Museum (*active*).

CLEVELAND:

- Board of Education (*non-member*):
McCornack, W. P., Architect (*active*).
Cleveland Museum of Art (*sustaining*):
Whiting, Frederic Allen, Director (*active*).

COLUMBUS:

- Ohio State Archeological and Historical Society (*non-member*):
Mills, William C., Curator and Librarian (*active*).

GREENVILLE:

- Museum of Carnegie Library (*non-member*):
Katzenberger, George A., Curator (*active*).

OBERLIN:

- Oberlin College, Zoological Museum (*non-member*):
Jones, Lynds, Curator (*active*).

ONTARIO

OTTAWA:

- Geological Survey of Canada (*sustaining*):
Johnston, R. A. A., Mineralogist and Curator (*active*).
Smith, Harlan I., Archeologist (*active*).
Unattached:
Ami, Henry M., Strathcona Park (*active*).

TORONTO:

- University of Toronto (*non-member*):
Montgomery, Henry, Head Curator of New General Museum (*active*).

OREGON

PORTLAND:

- Portland Art Association (*non-member*):
Crocker, Anna B., Curator (*active*).
Failing, Henrietta H., Late Curator (*active*).

PENNSYLVANIA

ARDMORE:

Unattached:

Townsend, Louis H., Osteologist (*active*).

ERIE:

Erie Public Museum (*non-member*):

Austin, Thomas L., Curator (*active*).

HARRISBURG:

Pennsylvania State Museum (*sustaining*):

Rothrock, Boyd P., Curator (*active*).

Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker (*active*).

PHILADELPHIA:

Academy of Natural Sciences of Philadelphia (*sustaining*):

Brown, Stewardson, Curator of Herbarium (*active*).

Stone, Witmer, Curator (*active*).

Museum of the Grand Lodge of F. and A. M. of Pennsylvania (*sustaining*):

Sachse, Julius F., Curator and Librarian (*active*).

Pennsylvania Museum and School of Industrial Art (*sustaining*):

Barber, Edwin AtLee, Director of Museum (*active*).

Stevenson, Mrs. Cornelius, Assistant Curator and Lecturer (*active*).

The Philadelphia Museums (*sustaining*):

Fisher, William L., Assistant Curator (*active*).

Schoff, Wilfred H., Secretary and Assistant Treasurer (*active*).

Toothaker, Charles R., Curator (*active*).

Wilson, W. P., Director (*active*).

University of Pennsylvania, University Museum (*sustaining*):

Gordon, G. B., Director (*active*).

Houston, S. F., Trustee (*active*).

Wagner Free Institute of Science (*non-member*):

Rothermel, John G., Director (*active*).

The Wistar Institute of Anatomy (*non-member*):

Greenman, Milton J., Director (*active*).

Perine, Clara N., Assistant to Director (*active*).

Unattached:

Foote, Warren M., Mineralogist (*active*).

PITTSBURGH:

Carnegie Institute, Department of Fine Arts (*non-member*):

Beatty, John W., Director (*active*).

Hyett, W. J., Assistant in charge of Galleries (*active*).

Carnegie Institute, Department of the Museum (*sustaining*):

Atkinson, D. A., Custodian of Reptiles (*active*).

Coggeshall, Arthur S., Preparator-in-chief, Department of Paleontology
(*associate*).

Courtney, Mrs. Addison, Assistant (*associate*).

Eigenmann, Carl H., Curator of Ichthyology (*active*).

Holland, W. J., Director (*life*).

Hughes, D. C., Assistant, Section of Archeology and Ethnology (*active*).

Jennings, Otto E., Assistant Curator of Botany (*active*).

Kahl, Paul Hugo Isidore, Custodian, Section of Entomology (*active*).
 Ortmann, Arnold E., Curator of Invertebrate Zoology (*active*).
 Peterson, Olaf August, Field Collector and Preparator of Mammals and
 Birds (*active*).
 Santens, Remi H., Chief Preparator, Taxidermic Laboratory (*active*).
 Sterki, Victor, Assistant in Conchology (*active*).
 Stewart, Douglas, Assistant to Director (*active*).

Unattached:

Coggeshall, Ethyl A. (*associate*).
 Santens, Mrs. Remi H. (*associate*).

READING:

Reading Public Museum (*non-member*):
 Mengel, Levi W., Director (*active*).

RHODE ISLAND

PROVIDENCE:

Park Museum (*non-member*):
 Madison, H. L., Curator (*active*).
 Magoon, Eva W., Assistant to the Curator (*active*).
 Rhode Island School of Design (*non-member*):
 Rowe, Louis Earle, Director (*active*).

SASKATCHEWAN

REGINA:

Provincial Museum, Department of Agriculture (*sustaining*).

SOUTH CAROLINA

CHARLESTON:

The Charleston Museum (*sustaining*):
 Kollock, Charles W., Secretary (*active*).
 Rea, Paul M., Director (*active*).
 Sharpe, Jesse, Treasurer (*active*).
 Stoney, Samuel G., Trustee (*active*).
 Weeks, Laura L., Secretary to the Director (*active*).

TEXAS

HOUSTON:

Houston Museum and Scientific Society (*non-member*):
 Brock, Clarence L., Director (*active*).

UTAH

SALT LAKE CITY:

Deseret Museum (*sustaining*):
 Talmage, James E., Director (*life*).

VERMONT

BURLINGTON:

University of Vermont (*non-member*):

Perkins, George H., Curator of Museum (*active*).

ST. JOHNSBURY:

The Fairbanks Museum of Natural Science (*sustaining*).

WALES

CARDIFF:

National Museum of Wales (*non-member*):

Hoyle, William Evans, Director (*active*).

WASHINGTON

SEATTLE:

University of Washington, State Museum (*non-member*):

Albrecht, Clarence J., Director of Vertebrate Exhibits (*active*).

Hall, F. S., Curator (*active*).

Washington State Art Association (*sustaining*):

Berg, George L., Director (*active*).

WISCONSIN

BELOIT:

Beloit College, Art Department (*non-member*):

Emerson, Mrs. Helen B., Curator (*active*).

MADISON:

State Historical Museum of Wisconsin (*non-member*):

Brown, Charles E., Chief (*active*).

MILWAUKEE:

Public Museum of the City of Milwaukee (*sustaining*):

Allen, Eleanor C., Artist (*active*).

Barrett, S. A., Curator of Anthropology (*active*).

Brah, Bernard H., Assistant, Department of Anthropology (*active*).

Brinckley, William J., Assistant, Departments of Geology and Vertebrate Zoology (*active*).

Clowes, Herbert, Landscape Modeler (*life*).

Graenicher, Sigmund, Curator of Invertebrate Zoology (*active*).

Peaslee, Leon D., Curator of Education (*active*).

Plambeck, R., Photographer (*active*).

Pope, T. E. B., Associate Lecturer (*active*).

Rohde, Paul C., Assistant Taxidermist (*active*).

Shrosbree, George, Chief Taxidermist (*active*).

Ward, Henry L., Director (*active*).

Unattached:

Shrosbree, Mrs. George (*associate*).

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PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

VOL. X

1916

PROCEEDINGS
OF THE
AMERICAN ASSOCIATION OF MUSEUMS

RECORDS OF THE ELEVENTH ANNUAL MEETING
HELD IN WASHINGTON

MAY 15-18, 1916

CHARLESTON, S. C.

1916

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PAUL M. REA, SECRETARY
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CHARLESTON, S. C.

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1916-1917

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Kent Scientific Museum, Grand Rapids.

1916-1919

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Field Museum of Natural History, Chicago

HAROLD L. MADISON

Park Museum, Providence

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PROCEEDINGS
OF THE
Eleventh Annual Meeting
OF THE
American Association of Museums
HELD IN WASHINGTON
May 15-18, 1916

SESSION OF MONDAY, MAY 15

Morning

The opening session of the convention was called to order in the New Willard Hotel by President Oliver C. Farrington, who introduced Dr. Charles C. Walcott, secretary of the Smithsonian Institution. Dr. Walcott extended a very hearty welcome, to which the President responded on behalf of the Association.

The roll of attendance was then called by the Assistant Secretary and the following is a list of those present:

ROLL OF ATTENDANCE

Miss Edith R. Abbot, Metropolitan Museum of Art, New York City.
Mr. Serafino Agostini, Carnegie Museum, Pittsburgh, Pa.
Miss L. L. Austin, Erie, Pa.
Mr. Thomas L. Austin, Erie Public Museum, Erie, Pa.
Mr. Alfred Bailey, State University of Iowa, Iowa City, Iowa.
Dr. Edwin AtLee Barber, Pennsylvania Museum and School of Industrial Art,
Philadelphia, Pa.
Dr. Thomas Barbour, Museum of Comparative Zoology, Cambridge, Mass.
Mrs. Blanche W. Baxter, Museum of Fine Arts, Syracuse, N. Y.
Miss Viola M. Bell, Teachers College, New York City.
Mr. Paul Brockett, Smithsonian Institution, Washington, D. C.
Mr. Harold H. Brown, John Herron Art Institute, Indianapolis, Ind.
Mr. Clyde H. Burroughs, Detroit Museum of Art, Detroit, Mich.

- Mr. Newton H. Carpenter, Art Institute of Chicago, Chicago, Ill.
Mrs. Newton H. Carpenter, Chicago, Ill.
Mr. Mitchell Carroll, Washington, D. C.
Miss Lotta A. Clark, Normal School, Boston, Mass.
Mr. Louis Coggeshall, Carnegie Museum, Pittsburgh, Pa.
Miss Louise Connolly, State Museum, Trenton, N. J.
Mr. Thomas J. Connor, Philadelphia Museums, Philadelphia, Pa.
Dr. A. R. Crook, Illinois State Museum of Natural History, Springfield, Ill.
Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mrs. Carlos E. Cummings, Buffalo, N. Y.
Dr. Joseph A. Cushman, Boston Society of Natural History, Boston, Mass.
Mr. John Cotton Dana, Newark Museum Association, Newark, N. J.
Mrs. D. W. deVeer, Oakland Public Museum, Oakland, Cal.
Prof. Homer R. Dill, State University of Iowa, Iowa City, Iowa.
Mrs. Jeannette M. Diven, Arnot Art Gallery, Elmira, N. Y.
Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.
Dr. G. Clyde Fisher, American Museum of Natural History, New York City.
Mr. William L. Fisher, Philadelphia Museums, Philadelphia, Pa.
Miss Helen W. Foster, Newark Museum Association, Newark, N. J.
Mr. Dwight Franklin, New York City.
Miss Anna B. Gallup, Children's Museum, Brooklyn, N. Y.
Miss Eloise Gerry, Forest Products Laboratory, Madison, Wis.
Mrs. Emily G. Gibson, Cleveland Museum of Art, Cleveland, Ohio.
Mr. Benj. Ives Gilman, Museum of Fine Arts, Boston, Mass.
Mr. Robert Glenk, Louisiana State Museum, New Orleans, La.
Miss Delia Isabel Griffin, Children's Museum of Boston, Jamaica Plain, Mass.
Dr. Joseph Grinnell, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
Mr. Samuel Henshaw, Museum of Comparative Zoology, Cambridge, Mass.
Dr. W. J. Holland, Carnegie Museum, Pittsburgh, Pa.
Dr. Arthur Hollick, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Mrs. Arthur Hollick, New Brighton, N. Y.
Dr. Walter Hough, United States National Museum, Washington, D. C.
Miss Winifred E. Howe, Metropolitan Museum of Art, New York City.
Mr. Henry R. Howland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mr. D. C. Hughes, Carnegie Museum, Pittsburgh, Pa.
Miss Margaret Talbot Jackson, Minneapolis Institute of Arts, Minneapolis, Minn.
Mrs. W. L. Jackson, Boston, Mass.
Mr. Charles W. Johnson, Boston Society of Natural History, Boston, Mass.
Mr. Henry W. Kent, Metropolitan Museum of Art, New York City.
Miss Mary L. Kissell, New York City.
Mr. Frederick L. Lewton, United States National Museum, Washington, D. C.
Mr. Thure H. Lindberg, Snead & Company Iron Works, Jersey City, N. J.
Mr. H. L. Madison, Park Museum, Providence, R. I.
Miss Eva W. Magoon, Park Museum, Providence, R. I.
Mr. Levi W. Mengel, Reading Public Museum, Reading, Pa.
Dr. C. Hart Merriam, California Academy of Sciences, San Francisco, Cal.

- Prof. William C. Mills, Ohio State Archaeological and Historical Society, Columbus, Ohio.
- Mr. Roy W. Miner, American Museum of Natural History, New York City.
- Miss Frances Morris, Metropolitan Museum of Art, New York City.
- Mrs. Mary B. Morris, Brooklyn Museum, Brooklyn, N. Y.
- Mr. John W. T. Nichols, New York City.
- Miss Maude I. G. Oliver, Art Institute of Chicago, Chicago, Ill.
- Miss Florence V. Paull, Museum of Fine Arts, Boston, Mass.
- Mr. Henry H. Paull, Boston, Mass.
- Miss Clara N. Perine, Wistar Institute of Anatomy, Philadelphia, Pa.
- Mr. Albert Hastings Pitkin, Wadsworth Athenaeum, Hartford, Conn.
- Miss Agnes L. Pollard, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
- Mr. Sydney Prentice, Carnegie Museum, Pittsburgh, Pa.
- Mr. Edward D. Putnam, Municipal Museum, Rochester, N. Y.
- Mrs. Edward D. Putnam, Rochester, N. Y.
- Dr. Richard Rathbun, Smithsonian Institution, Washington, D. C.
- Mr. W. deC. Ravenel, United States National Museum, Washington, D. C.
- Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
- Miss May Redd, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- Mr. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
- Mrs. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
- Mr. E. G. Routzahn, Russell Sage Foundation, New York City.
- Mr. Louis Earle Rowe, Rhode Island School of Design, Providence, R. I.
- Mr. Julius F. Sachse, Museum of the Grand Lodge of F. and A. M. of Pennsylvania, Philadelphia, Pa.
- Mr. Harold R. Sampson, Library Bureau, New York City.
- Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
- Miss Margaret E. Sawtelle, Worcester Art Museum, Worcester, Mass.
- Mrs. Laura W. L. Scales, Museum of Fine Arts, Boston, Mass.
- Mr. Rudolph M. Schiele, Philadelphia Museums, Philadelphia, Pa.
- Mr. Frank H. Severance, Buffalo Historical Society, Buffalo, N. Y.
- Mrs. Frank H. Severance, Buffalo, N. Y.
- Miss Anna D. Slocum, Jamaica Plain, Mass.
- Miss Laura Slocum, Jamaica Plain, Mass.
- Dr. Leonhard Stejneger, United States National Museum, Washington, D. C.
- Dr. James E. Talmage, Deseret Museum, Salt Lake City, Utah.
- Miss Ann E. Thomas, American Museum of Natural History, New York City.
- Mr. Charles R. Toothaker, Philadelphia Museums, Philadelphia, Pa.
- Mrs. Agnes L. Vaughan, Metropolitan Museum of Art, New York City.
- Mr. Henry L. Ward, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Mr. Henry S. Ward, Milwaukee, Wis.
- Miss Laura L. Weeks, Charleston Museum, Charleston, S. C.
- Miss Alice W. Wilcox, Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
- Dr. W. P. Wilson, Philadelphia Museums, Philadelphia, Pa.
- Miss Beatrice Winsor, Newark Museum Association, Newark, N. J.

The report of the Secretary was presented as follows:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year ended May 15, 1916:

Because of the fact that the San Francisco meeting was not held until July, and was at such a distance from the home office, it was not possible to prepare the *Proceedings* for the printers until the fall. They were published late in December, 1915.

Five new sustaining members and thirty-five new active members have been approved by the Council during the past year, as follows:

NEW MEMBERS

Sustaining Members

Battle Creek Public School Museum, Battle Creek, Mich.
California Academy of Sciences, San Francisco, Cal.
Park Museum, Providence, R. I.
Smithsonian Institution, Washington, D. C.
Toledo Museum of Art, Toledo, Ohio.

Active Members

Dr. Hector Alliot, Curator, The Southwest Museum, Los Angeles, Cal.
Dr. W. W. Atwood, Secretary, Chicago Academy of Sciences; Trustee, Children's Museum of Boston. Address: Harvard University, Cambridge, Mass.
Mr. Alfred Bailey, Student in Taxidermy, State University of Iowa, Iowa City, Iowa.
Mr. William Berwick, Restorer of Documents, Library of Congress, Washington, D. C.
Mr. Herbert Bolton, Director, Bristol Museum and Art Gallery, Bristol, England.
Mr. Solon J. Buck, Superintendent, Minnesota Historical Society, St. Paul, Minn.
Miss Lotta A. Clark, Normal School, Boston, Mass.
Mr. Robert E. Cowan, Historian, 867 Treat Avenue, San Francisco, Cal.
Prof. Byron Cummings, Director of the Museum, University of Arizona, Tucson, Ariz.
Mr. Frank S. Daggett, Director, Museum of History, Science, and Art, Los Angeles, Cal.
Mrs. D. W. deVeer, Acting Curator, Oakland Public Museum, Oakland, Cal.
Miss Lucy C. Driscoll, Assistant to Director, Art Institute of Chicago, Chicago, Ill.
Mr. Robert G. Eberhardt, In charge Mrs. A. B. Spreckels' Museum, 2042 Vallejo St., San Francisco, Cal.
Dr. Barton W. Evermann, Director, California Academy of Sciences, San Francisco, Cal.
Mr. Eugene J. Fischer, Preparator, Museum of History, Science, and Art, Los Angeles, Cal.

- Dr. G. Clyde Fisher, Assistant Curator, Department of Public Education, American Museum of Natural History, New York City.
- Mr. Dwight Franklin, Preparator of Ethnological Groups, 1947 Broadway, New York City.
- Mr. E. W. Gifford, Associate Curator, Anthropological Museum, University of California, San Francisco, Cal.
- Mr. Morris Gray, President, Museum of Fine Arts, Boston, Mass.
- Mrs. Herman J. Hall, Museum Instructor, Art Institute of Chicago, Chicago, Ill.
- Dr. Walter Hough, Curator of Ethnology, United States National Museum, Washington, D. C.
- Miss Mary Lois Kissell, Formerly with American Museum of Natural History. Address: 423 W. 120 St., New York City.
- Dr. Charles W. Kollock, Secretary, The Charleston Museum, Charleston, S. C.
- Mr. Thure H. Lindberg, Snead & Company Iron Works, Jersey City, N. J.
- Dr. W. D. Matthew, Curator of Vertebrate Paleontology, American Museum of Natural History, New York City.
- Mr. Clarence S. Paine, Secretary, Nebraska State Historical Society, Lincoln, Nebraska.
- Capt. Thomas Pinckney, President, The Charleston Museum, Charleston, S. C.
- Count G. N. Plunkett, Director, National Museum of Science and Art, Dublin, Ireland.
- Miss Theodora Pollok, Late Assistant, Newark Museum Association. Address: 809 Scenic Ave., Piedmont, Cal.
- Mr. A. E. Reynolds, Trustee, Colorado Museum of Natural History. Address: 830 Equitable Building, Denver, Col.
- Mr. Jesse Sharpe, Treasurer, The Charleston Museum, Charleston, S. C.
- Mr. George W. Stevens, Director, Toledo Museum of Art, Toledo, Ohio.
- Capt. Samuel G. Stoney, Trustee, The Charleston Museum, Charleston, S. C.
- Miss Ann E. Thomas, Assistant in Department of Public Education, American Museum of Natural History, New York City.
- Prof. J. A. Udden, Director, Bureau of Economic Geology, Austin, Texas.

The Association has lost by death four active members: Dr. Frederick B. McGuire, director of the Corcoran Gallery of Art and a charter member of the Association, died December 11, 1915. Dr. Frederick W. Putnam, honorary director of the Peabody Museum at Harvard University, professor emeritus of anthropology at the University of California, and a charter member of the Association, died August 14, 1915. Capt. Thomas Pinckney, president of the Charleston Museum, died November 15, 1915. Dr. William J. Brinckley, assistant in the departments of geology and vertebrate zoology in the Public Museum of the City of Milwaukee, died May 1, 1916.

One sustaining member and eight active members have been dropped from the rolls for two years' delinquency in dues. One sus-

taining member and four active members have resigned. There is thus a net increase of three sustaining and nineteen active members.

There are now one sustaining and twelve active members in arrears for dues for two years. These will have to be dropped from the rolls in accordance with the rules of the Association. One sustaining and eighteen active members are in arrears for dues for one year. There were last year one sustaining and twenty-one active members in arrears for one year. The sustaining member is now two years in arrears and about to be dropped. Of the active members, one has died, two have resigned without payment of their arrears, twelve are now two years in arrears and about to be dropped, and six have paid. If we have the same experience with the active members now in arrears, we may expect to retain four, and to lose fourteen. This means that during the coming year we must obtain at least one sustaining member and fourteen active members to replace losses other than those by death.

At the San Francisco meeting the Secretary and Dr. James E. Talmage were appointed delegate and alternate respectively, to represent the Association at the Second Pan-American Scientific Congress in Washington December 27, 1915 to January 8, 1916, and the Secretary was instructed to endeavor to obtain a place on the program of the Congress for the presentation of a paper upon some phase of the educational work of American Museums. The Secretary was prevented at the last moment from attending the Congress, but Dr. Talmage represented the Association and will submit a report later in this session. The Secretary was unable to arrange for the presentation of the paper already referred to.

A resolution calling upon the Powers signatory to the Hague Convention of 1907 to adhere strictly to Article 56 of that convention was adopted by the Association at the San Francisco meeting, and referred to the Council to be forwarded to the proper authorities for action. In accordance with a vote of the Council, the Secretary forwarded a copy of this resolution to the Secretary of State and received an acknowledgment stating that the resolution would receive due attention and be placed on file in the archives of the department.

Respectfully submitted,

PAUL M. REA, *Secretary.*

The report of the Secretary was accepted and ordered incorporated in the *Proceedings*.

In the absence of Treasurer W. P. Wilson, his report was read by the Assistant Secretary and referred to an auditing committee appointed by the Chair. This committee, consisting of Messrs. William C. Mills, Homer R. Dill, and Joseph Grinnell, reported at a subsequent session that the Treasurer's accounts had been examined and found correct.

Secretary Rea presented an informal report on behalf of the Commission for Museum Cooperation, stating that, although the Commission had not had sufficient funds for the active prosecution of all the work it would like to undertake, it had been able to devote some money to traveling expenses and stenographic assistance for the development of its work and for the formulation of more definite plans for the future. These expenditures had facilitated the work of the Association and made possible a continuation of the general studies of museums which have been the basis of the annual reports made to the Bureau of Education on the "Educational Work of American Museums" and of other studies to be presented later in the session.

Secretary Paul M. Rea then presented a special report on the condition and needs of American museums, as follows:

CONDITION AND NEEDS OF AMERICAN MUSEUMS

The experience of a national association necessarily throws much light upon the progress of the institutions it represents. The tenth anniversary of the founding of the American Association of Museums, therefore, is a fitting occasion to review its achievements and, more especially, to consider its future activities in relation to the present condition and needs of American museums.

Organized in New York City, May 15, 1906, the Association has held annual meetings which have been of great value to the members participating, both through the papers and discussions of the formal sessions, and through the personal acquaintance and interchange of ideas which have always been among the most enjoyable features of our conventions. The custom of meeting in a different city each year also has assisted our members in maintaining a general familiarity with museum development throughout the country.

The membership of the Association in 1907 included 26 sustaining members and 135 active members. It contains today 54 sustaining members and 263 active members, representing a total of 155 museums.

The *Proceedings* of the Association, published annually since 1907, have made our papers and discussions permanently available, not only to those who have participated in the meetings, but to museum workers everywhere, and now constitute our best manual of museum practice.

One of the most important services performed by the Association was the preparation of a Directory of American Museums, published in 1910 through the generous cooperation of the Buffalo Society of Natural Sciences. This Directory made accessible, for the first time, information regarding the staff, collections, library facilities, finances, history, and general activities of museums throughout North and South America. There is evidence that this book, although now somewhat out of date, is more generally consulted as a reference work than at the time it was first published.

The publication of the Directory has been followed by further studies of museum problems from a national point of view. Some of the results of these studies have been published as annual reviews of the educational work of American museums in the reports of the United States Commissioner of Education.

In December, 1913, the Association established a special Commission for Museum Cooperation "for the purpose of gathering and collating helpful information and diffusing the same among museums." Although hampered by lack of funds the Commission has been able to accomplish enough to demonstrate that the need for this work is now more apparent and more urgent than ever before. It concerns the welfare of the Association and of all museums, and is best considered in connection with a general analysis of the present condition and needs of American museums. Such an analysis is therefore submitted in the belief that it is deserving of most serious consideration.

In spite of all that the American Association of Museums has accomplished as a forum for the discussion of museum problems, it is evident that museums constitute today one of the most incompletely organized and imperfectly developed intellectual, educational, and social forces in the country. The interest of those engaged in the work of museums hitherto has been centered almost exclusively in the problems of their own particular institutions. There has been a notable lack of attention to the broader aspects of the museum movement as a whole. The primary purpose of this paper is to outline a composite picture of American museums as they exist

today. The statistics here presented are obtained chiefly from the Directory of American Museums, and are naturally very incomplete. Their value lies not in detailed accuracy, but in the indications they give of certain broad facts.

After one hundred and forty-three years of museum history in America, there are now nearly six hundred museums distributed in all parts of the United States. About fifty per cent of these are devoted to science, twenty-five per cent to history, ten per cent to art, and fifteen per cent to special or miscellaneous subjects. The natural inference would be that the influence of science museums is predominant; that museums of history are second in importance; and that art museums are a poor third. Such an inference, however, would be most incorrect. It is not the number of museums of any particular kind that determines their importance, but rather the quality and extent of the results which they achieve. The efficiency of museums is difficult to measure, but their annual expenditures give an illuminating insight into their activity.

Approximately thirty-eight per cent of all museums look to schools and colleges for their maintenance. Twenty-seven of these museums reported in 1910 total appropriations of less than fifteen thousand dollars, and only five received one thousand dollars or more.

Thirty-five per cent of all museums look to societies or associations for their maintenance. Ten of these reported in 1910 total appropriations of thirty-eight thousand dollars. Again, however, only five received more than one thousand.

We thus find that seventy-three per cent of all our museums depend for support upon sources which yield an average income of only a few hundred dollars. A large proportion of the science museums belong to schools and colleges; a large proportion of the museums of history belong to societies or associations. With a few conspicuous exceptions, these museums are almost entirely without funds, and in consequence are ill cared for and inactive. Their condition has been discussed more fully in one of the reports of the Commissioner of Education.¹ It is to the large number of museums of this character that we must attribute the widely prevalent conception of a museum as a dusty, musty storehouse of curious, but practically worthless, material. It is the existence of such a large proportion of inefficient museums that requires caution in estimating the relative importance

¹ Rea, P. M., Educational work of American museums. Rep. U. S. Commis. Ed., 1913, vol. I, ch. 13.

of art, history, and science as museum subjects. The deplorable condition of a majority of our museums, and the perfectly natural lack of public interest in such institutions, is the first fact which it behooves us all to recognize.

In contrast to this unpleasant fact, we find a small group of museums, irregularly distributed over the entire country and developed along their present lines chiefly during the last twenty years, whose condition and work form a significant and marked contrast with the museums already described. Thirty-one of these institutions have endowments aggregating nearly twenty million dollars and yielding incomes amounting to nearly one million. Twenty-nine receive municipal appropriations in excess of a million dollars annually. Seventy-six had a combined annual income in 1910 of nearly three million dollars. Sixty-eight of these museums reported a total attendance of over six and a quarter million people.

It is interesting to note that only six colleges have endowed museums, and that the museums at Harvard alone have about two-thirds of all college museum endowments. It is safe to conclude, therefore, not only that college museums receive extremely small appropriations from general college funds, but also, that in only a few exceptional instances do they have endowments. Practically the same condition maintains among museums supported by societies or associations.

The great majority of active museums differ from college and society museums in that they depend upon the public for support, either directly through membership and gifts, or indirectly through municipal appropriations. Their success depends upon their ability to serve the people; hence they become truly popular institutions. They perform the important function of preserving material of artistic, historical, and scientific value, and they prosecute original studies and explorations. But of extreme importance is their use of their collections and their knowledge for the recreation and instruction of the general public. Such museums have become one of our great educational forces, and to this fact must be attributed their success in obtaining financial support.

Art and science are about equally represented in this new type of museum. In 1910, four museums had endowments of over one million dollars each. The first of these was the Field Museum of Natural History in Chicago, whose endowment of somewhat more than five million dollars was about equal to the combined endow-

ment of the next three, but these three were all art museums. Museums of history are not well represented among these more active institutions. Indeed, there is only a small number of historical museums of conspicuous excellence in the country. Yet I am sure you will all agree with me that history lends itself peculiarly well to museum treatment, and I am confident that a great development of historical museums is one of the advances which is sure to come in the near future.

Wherever the active public museum is found, whether in a small town or in a great city, a new appreciation of museums and their possibilities will be found among the people. Millions of school children, thousands of teachers, and hundreds of educators high in authority are enthusiastic in their praise of this new factor in education through visual instruction. We thus find the second great fact that must be borne in mind in any general estimate of museum development, viz., that a new type of museum, looking to the people for support and recognizing its obligation to serve the people, has become during the last twenty years an educational and social factor of great and growing importance.

The museum situation today presents a struggle between the two types of museums outlined above, and between the two corresponding states of mind among the people. The immediate outlook for public service on the part of museums of the first type is not promising. On the part of museums of the second type public service is an accomplished fact. The great need of museums today is the education of a national consciousness of the great and significant change which has taken place in their whole character and policies.

There are many evidences that the time is ripe for a more systematic development of public museums. Without it, their growth must necessarily be slow, while with it, I believe we are ready to enter upon a period of expansion which will permanently establish museums as public servants of the greatest usefulness.

Museums today are suffering conspicuously from lack of organization. There is no medium for the exchange of ideas other than the meetings of this Association. We need a regular museum journal and need it at once. Only the merest beginning has been made in offering training for museum work. Standards of museum practice have not been established. National statistics have only begun to be collected. Nowhere can the authorities of a museum draw from a common fund of experience and expert knowledge. In short,

museum development is not yet an organized national movement; it is a series of isolated endeavors on the part of enthusiastic pioneers.

To coordinate these unrelated forces is not to attempt to promote a new and untried scheme. The enthusiastic pioneers have proved their case. Is there any body more fitted than the American Association of Museums to appreciate this opportunity and to undertake to fill this need? And is there any time more fitting than the tenth anniversary of the founding of this Association to adopt a policy worthy of its name, as the natural outcome of its first decade of investigation?

This is an age of highly specialized organization. Without organization large results are difficult of attainment. It is true that there are inherent in all organizations certain dangers of excess which must carefully be guarded against. We must avoid a central bureau exercising dominant authority. We must avoid a standardization of museums which shall endeavor to cast them all in the same mold. We must retain the individuality and the close adaptation to local conditions which fortunately have resulted from the isolated development of museums in the past; but we must have a freer circulation of ideas, an ample central fund of information, and an organization capable of extending expert assistance in the support of the work of individual museums. We must not stimulate artificially the premature establishment of a host of museums, but we must make easier the founding of museums on sound lines where conditions are favorable.

Such an organization may be a new idea in museum development, but it is not a new idea in other fields. The condition of Young Men's Christian Associations throughout the country twenty years ago was closely comparable with the condition of museums today. The change which has been effected would have been impossible without organization. The transformation of chambers of commerce from ineffective, ultra-conservative, isolated bodies to an aggregation of strong and active units, voicing their opinions through the National Chamber of Commerce, which is rapidly becoming the exponent of the best commercial ideas of the country, is due to organization. The conspicuous efficiency of library service throughout the country is due to organization. The elevation of the standards of scholarship and equipment of our medical colleges, which is one of the most remarkable achievements of the past decade, was possible only through the influence of a national organization. The power of

the Associated Advertising Clubs of the World is the result of the organized development of local units.

Everywhere the effect of organization is a stimulation of local effort, a national currency of ideas, a higher efficiency of method. These results may be described as internal, while another group is external. This concerns the education of public opinion and may be accomplished in part by a definite program of publicity, which in turn stimulates the spontaneous production and expression of ideas throughout the country. In the case of museums, the internal results might be derived through the conventions of the Association, the correspondence of its officers, the publication of its journal, and the personal contact which it would have to maintain with museums and museum workers everywhere. The external results might be obtained by a program of publication in other technical journals, in the monthly and weekly magazines; and, perhaps, even in the newspapers. These would themselves initiate other papers and discussions, all of which would educate public opinion with a rapidity which it is probable that we can hardly appreciate at this time.

SUMMARY

My investigations thus lead me to the following conclusions:

1. From causes inherent in the nature of their support, nearly three-quarters of our existing museums necessarily hold but limited promise of public service.

2. There have arisen, chiefly during the last twenty years, public museums of an entirely new type which, by applying their resources in large part to visual instruction of the people, have become educational and social factors of great and growing importance.

3. The present need of American museums is an organized national movement for the improvement and extension of public museums of this new type, and for the education of public opinion concerning the value of such museums.

4. The American Association of Museums is the body best fitted to organize this movement.

Mr. Benj. Ives Gilman (Museum of Fine Arts, Boston).—"Mr. Rea's admirable report suggests a thought which I have had in mind ever since this organization was started, namely, that in joining it, if I may quote a local poet of New England: "I was hitching my wagon to a star." In other words, I think this Association is im-

mortal, and immortals have important business, we presume. If they don't do it at one time of their immortality, they simply leave it for some future moment. That is precisely the way I feel about Mr. Rea's recommendations.

"Why do I think this Association is a star? Why do I think it is immortal? Simply because museums have come to stay, and things that have come to stay must get together. If this particular organization decided today that it did not care to do anything about this matter, this organization would very likely go out of existence. It wouldn't be worth our while to come to future meetings. But that would be of little consequence. If we who constitute this Association at this particular moment fail in getting together and in doing what occurs to us when we do get together, we simply leave it for the future. If we die as an organization, the museums of five years hence will make another organization.

"Now, the question before us, it seems to me, is only whether we should seriously consider doing the work which Mr. Rea's paper makes plain is here before us to do, or whether we feel that really it is too much to ask of us; and we would rather sit in our places and feel that coming together once a year is about all that we can be expected to do, and that a future year will have to be chosen as the one which shall carry on the real work of the organization."

Mr. Henry R. Howland (Buffalo Society of Natural Sciences).—
"It is very pleasant for us to get together once a year to meet familiar friends and familiar faces, and to profit by what we hear. But as I have listened to Mr. Rea's report I have been greatly impressed that something more is incumbent upon this Association. This nationalizing of a strong feeling of support for museums as a part of the higher and better things in every community seems to me one of our duties. The way we may accomplish this result is what should be pointed out to us. The analysis Mr. Rea has made of the museums of this country is very enlightening, and it is certain that publicity is one of the great things this Association needs in accomplishing that work which should be its object and which lies before us.

"Mr. Rea has said in his report that we need a museum journal at once. I entirely agree with him. I feel that the circulation of such a journal among those interested in museum work would be not only helpful to them, but stimulating to those who support the museums in our various communities. A large proportion of the trustees of public museums are personally very ignorant of museum

affairs. They support their particular museums because it is the right thing to do, but they know very little of the needs of the museums of the country or of the problems that might be solved by the assistance of this Association. I believe that steps should be taken toward the publication of a museum journal.

"More than that, I feel that this Association should realize the amount of labor that the Secretary and his very modest staff have accomplished in the past and are accomplishing today, as evidenced by this report, and should take such steps as are needful to further that work and to make it easier for those upon whose shoulders the burden is laid. I commend the report most highly."

Mr. Herbert E. Sargent (Kent Scientific Museum, Grand Rapids).—"I want to thank the originators of the American Association of Museums for the help it has given so many of us, and I want to speak a word for those who have not been helped because they have not come into the organization and have not felt the pulse which is beating through every one of those here. This plan as outlined is what we need, but more than that it is what they need. It is also what they are willing to take, I believe, if we will give it to them.

"Every one of us needs the experience of others as gained in these meetings to take back to the people of his own community. But what we all find difficult is to convince them of the value of this experience. A periodical which can be put into the hands of the people who may want to know what is done here will not only help us, but will help those who are not with us today. It means work, of course, a lot of it; it means not only the work of Mr. Rea and his staff; it means the work of every one of us. I do not believe many of us are doing all we can. I know I am not. There are in my state several organizations that are not with us. We need this publication and I believe that this tenth anniversary could not be better spent if we did nothing else than put this movement on its feet."

Mr. Roy W. Miner (American Museum of Natural History, New York City).—"I find myself in what is, perhaps, the position of many of you here. I have not been able to attend the Association meetings for two years. I have not been able, therefore, to get the inspiration and help of the Association as an organization.

"In working up material for a paper at this meeting, trying to see what had been done along a certain line, not only in this country but in other countries, I found that almost nothing had been published in America, at least in recent years. I had to go to such pub-

lications as the British *Museums Journal* and the German *Museums-kunde* for material regarding certain things in this particular topic. My experience indicates the need of a museum journal which will come to me every month, and from which I may know what is going on throughout this country."

Mr. Harold L. Madison (Park Museum, Providence).—"There is another phase of this matter in which, as the representative of a small museum, I need a strong organization behind my work, and that is in impressing upon the people of my community the importance of the museum as a big organization. I find myself in touch with such bodies as Mr. Rea has mentioned in his paper, the Young Men's Christian Association and the Chamber of Commerce, which have back of them an organization doing things that result in their being recognized as great national movements and that make it comparatively easy for them to secure funds.

"During the last eight years our appropriation from the city, and ours is strictly a municipal museum, has almost trebled, and yet at the present time we find ourselves facing a condition in which, if we are to develop the various lines of work which have begun, we must have more money, probably more money than the city is willing to appropriate for some years to come. With a national organization behind the museum, I can say to the city: 'This is a great big thing that has come to stay; it is recognized as one of the most deserving movements throughout the country.' It would then be not nearly so difficult to secure funds.

"I am dreaming of an endowment some day for my museum, even though it is a municipal institution. To whom may I turn for help in raising an endowment? I cannot make the same impression on the people of my own city that a competent man from away can make. It would be of the greatest assistance if I could get a representative of this Association to come and tell them what museums stand for throughout the country. We need organization, not only for publication, but for help in raising funds, if you please, an organization upon which we may call for information along many lines." (*Applause.*)

Dr. W. J. Holland (Carnegie Museum, Pittsburgh).—"I have been very much interested in this report, and in the remarks which have been made. Mr. Rea reminds us of the fact that this is the tenth anniversary of our first convocation. We have lived ten years and I

don't think it has been at a poor dying rate. To quote one of Dr. Waters' hymns:

We have lived; we have paid our bills;
We have accomplished some things that are creditable.

"We are recognized today as the only association of its kind in the western hemisphere, and that is something. The cause that we represent is a growing cause; it commends itself to all the world. As my friend on the right expressed it, 'museums have come to stay.' They are not going to depart like a cloud of locusts when the frosts come in the fall.

"The only question, then, is to make this organization, which has come to stay, as potent, as useful, as conducive to the public good as can be done. It is suggested that we publish a newspaper. We will, yes, provided we can get the right editors, men who know what they are talking about, who have ideas, and who are in a position to instruct.

"Printing a newspaper is an art, like keeping a hotel, and journals connected with associations of this sort are likely to have a hard time if not supported by generous guarantees of money. I believe it would be a good thing to have in connection with this Association and to a certain extent under our supervision and control, a journal like the *Museums Journal* of Great Britain. I would like to say that I am willing personally and officially to do all that lies in my power to promote the noble efforts which have been suggested, but I want to utter in passing a slight word of caution. Be sure you are right, that you have conceived the thing along lines that are likely to succeed, then go ahead. I would not like to see this Association commit itself to a movement the outcome of which is not clearly foreseen. It is easy to embark in enterprises that we may repent."

Secretary Rea.—"I am very grateful to Dr. Holland for bringing out the points he has made, especially the last. There is nothing for which I am more anxious than that this Association shall not act thoughtlessly in this matter, and I would be most loath to see it undertake a program which it cannot carry through. I feel that this subject, as the President has indicated, should be the keynote of this convention, that action should be cautious but strong, and that we should keep this matter in mind and look at it from one side and another, from day to day, until we adjourn but that adjournment should not come until we know where we stand.

"I would like to comment on one statement that Dr. Holland has made: It was a pleasant thought which he presented that we have lived ten years and paid our bills. We have paid our bills in the sense that there are no outstanding bills, but it is fundamentally and ethically true that we have not paid our bills. In the second year of the Association we decided to publish our proceedings. Did we pay the bill? No. Who paid the bill? Dr. Holland."

Dr. Holland.—"This is offensive to me. The gentleman is indulging in personalities, and I hope that you will not allow it."

The Chair.—"Dr. Holland is out of order."

Secretary Rea.—"Two years later we had undertaken to perform our first great stock-taking operation, to determine something which was unknown—the number and kind and quality of museums which existed in this country. Did we pay the bills? No. A gentleman from Pittsburgh and a gentleman from Chicago paid most of the bills. We got our directory ready and it was printed, and there is no outstanding bill, but who paid it? The Buffalo Society of Natural Sciences. Therefore, ladies and gentlemen, this Association has made good only by the courtesy and the charity of its friends.

"However, Dr. Holland has put his remarks in a most happy way. He has brought to the front cautions which should be followed very carefully, and he has at the same time expressed his high faith in the future of this organization and his desire to promote sound permanent results. I desire nothing more than to have all phases of this matter discussed."

After some further discussion a set of resolutions was introduced and by vote of the Association ordered to be mimeographed for more careful consideration. These resolutions were unanimously adopted at the closing session of the convention in the following form:

Resolved, That the American Association of Museums, in annual convention assembled, records its profound conviction that the results already attained by the leading public museums of the United States warrant and require organized effort for still more useful service, and to this end pledges itself to united and sustained support of a national movement for the increase of the number and efficiency of museums as public servants, and for the education of public opinion to a fuller appreciation of the practical value of museums, and that it proposes to promote these purposes—

First. By the publication of a museum journal which shall be a forum for discussion of the principles and problems of museum organization and management, and for the diffusion of information respecting museums.

Second. By the preparation of articles for the education of public opinion in relation to museums, to be published in such manner as may appear most suitable.

Third. By systematic collection and diffusion of statistical and technical information for the benefit of a national museum development.

Fourth. By maintaining intimate and personal acquaintance, through its officers, with museums and museum workers.

Fifth. By extending its cooperation in such ways as may prove most helpful to communities desirous of establishing museums, and to existing museums in the solution of problems in which the aid of the Association is desired, and further be it

Resolved, That the Council of the Association be and it hereby is authorized to take such action as may in its judgment best be calculated to carry into effect the purposes of these resolutions, and that the Council be and it hereby is duly authorized to solicit funds on behalf of and in the name of the Association for the prosecution of these plans.

At the time these resolutions were passed there was a somewhat extended discussion of possible difficulties and dangers involved in the publication of a museum journal. This discussion resulted in no definite action and was intended chiefly for the information of the Council. In this connection, Mr. Herbert E. Sargent of the Kent Scientific Museum, Grand Rapids, appealed to the members to communicate more freely to the Council their ideas and suggestions for the welfare of the Association.

A communication was submitted from the College Art Association relative to college training for museum workers. The Association voted to refer this communication to the Council with power to act. The Council, feeling that the matter required more prolonged consideration than could be given to it during the convention, subsequently appointed a sub-committee consisting of Mr. Louis Earle Rowe, Mr. Benj. Ives Gilman, and Miss Edith R. Abbot, this committee to make recommendations to the Council.

The Secretary requested the attention of the Association to the fact that the use of the questionnaire method of obtaining museum information is greatly increasing. He emphasized the importance of this method of obtaining information, the danger of its being over-worked, and the desirability of having the information obtained by this means accessible through the Association to all museums. He then suggested the desirability of taking action tending to discourage the indiscriminate use of questionnaires, and at the same time of providing better facilities for filing, compiling, and distributing museum information on behalf of the Association. These suggestions were not received with favor by the Association and the matter was laid on the table.

The Council submitted the following communication, which was received by the Association as information:

To the Members of the American Association of Museums:

Every one of the grand divisions of the earth except America is at present somewhere a scene of war. President Wilson has declared it folly for Americans to act as if there were no danger that a spark from this world-wide conflagration might catch in this country.

Since museum collections are among those items of our national wealth which most easily might become the spoil of an invader, the Council of the Association earnestly urges its members to inform themselves fully and without delay in regard to the various movements now on foot in this country under distinguished auspices looking to the safety of our people and our institutions.

In memory of our forefathers, and in forethought for our descendants,

Council of the American Association of Museums.

The Secretary submitted to the Association a communication from Mr. E. E. Lowe of the Museums Association of Great Britain relative to an effort being made to arrange with an English manufacturer to furnish glass exhibition jars suitable for museum use. The general sentiment of the Association seemed to be that inquiry should first be made as to the possibilities of securing glassware of this character from American manufacturers, failing which the members would be interested to cooperate with the British Association.

The Association then adjourned for luncheon. The afternoon was devoted to an inspection of the new National Museum, the old building of the National Museum, and the Smithsonian Institution.

SESSION OF MONDAY, MAY 15

Evening

The evening was devoted to a supper, followed by the presidential address and a round table discussion in celebration of the decennial anniversary of the founding of the Association. At the request of President Farrington, Dr. W. J. Holland of the Carnegie Museum, Pittsburgh, acted as chairman for the evening.

At the conclusion of the supper, President Oliver C. Farrington, curator of geology in the Field Museum of Natural History, Chicago, delivered his presidential address as follows:

SOME RELATIONS OF SCIENCE AND ART IN MUSEUMS

It was said, I believe, at our last meeting, that there has never been a meeting of this Association at which the relations of science and art in museums have not been discussed. If my personal wishes are consulted, the subject will continue to be discussed at meetings of the Association, since I regard it as one of fundamental importance and one which admits of greater elaboration than it has yet received. While I do not expect to be able to contribute anything of radical importance to the discussion, I may improve this opportunity to glance at some of the outlines of the subject.

Art, according to a definition which may be representative, is practice as guided by correct principles in the use of means for the attainment of a desired end. The arts may be subdivided into the esthetic or fine arts, or arts of beauty; and the useful, industrial or mechanical arts, or arts of utility. Of these two forms of art it is the fine arts which are represented most largely in the museums of this Association. While there are museums devoted chiefly to the useful or industrial arts, as yet this phase of art has received limited attention from the museum standpoint. Confining, then, our consideration of art chiefly to the fine arts, we may note that they may be subdivided into (1) the free, whose object is to create form for its own sake, embracing painting, sculpture, music, and poetry; and (2) the dependent, whose object is to create form that shall minister to some utility. Here again we may note that the museums of art so far established deal chiefly with the free or unapplied arts.

A term formerly contrasted with art was nature, distinguishing what was from what was done. It survives in the term natural

history museums, which is the designation of many of the museums represented in this Association. But as the term "nature" gradually came to mean ordered knowledge of natural phenomena, it became natural science, and this was abbreviated to science. The term chiefly contrasted with art is now, therefore, science. Science is knowledge gained and verified by exact observation and correct thinking, especially as methodically formulated and arranged in a rational system. Like art, science may be divided into (1) pure science, which is knowledge acquired for its own sake, and (2) applied science, which is knowledge acquired for its utility. Just as museums of art are thus far chiefly devoted to pure rather than to applied art, so museums of science have thus far been chiefly devoted to pure rather than to applied science. There is little of economic importance about a dinosaur or an ornithorhynchus, yet it is to materials of this sort that natural history museums chiefly devote themselves. That the preponderance of this more or less abstract relation of museums to human activities may not always exist is quite probable, but it is interesting to note that thus far it has existed.

A contrast between art and science which expresses in a phrase the characteristics represented in the definitions just given is to say that art consists in doing, science in knowing. In so far as it is necessary to know in order to do, therefore, science may be said to be subservient to art; in so far as it is necessary to do in order to know, art may be said to be subservient to science. A scientific museum should then, we would say, represent what is known, an art museum what is done. But while the terms are independent they are not exclusive. Because science deals fundamentally with knowledge and art with action, it cannot correctly be inferred that an artist need not know anything or a scientist need not do anything. Again, a contrast of art and science has been expressed by saying that science speaks in the indicative mood, art in the imperative. Science treats of what is, was, or shall be; art of what should be. Science seeks a knowledge of nature. Art says in effect that it seeks something better than nature. Science depicts life; art, sometimes at least, exaggerates life.

Perhaps the distinction between science and art by which their characteristics are most commonly and at the same time fundamentally expressed, is that which regards them as emphasizing, the one truth, the other beauty. The search of science is chiefly for truth, that of art for beauty. Science produces the law of gravitation;

art the Sistine Madonna. Science gives us the Origin of Species; art the Venus de Milo. Both of these ideals are great and worthy. There would seem to be no reason for a conflict between them, yet they do conflict somewhat, in effect, for the scientist sometimes feels somewhat averse to art because he feels that art is not always true, and the artist is sometimes unable to appreciate science because he says it is not always beautiful. Yet a deeper study of either of these concepts would show that they are not in reality opposed. The colors used by the artist may appear to the unartistic eye unnatural, yet the artist asserts that they are the true colors. To the artist a lump of black mud looks ugly, but the scientist knows that it contains the elements of the blue of the sapphire, the gleam of the diamond and the whiteness of the snow. The scientist sees beauty in a dinosaur, the artist truth in a gargoyle.

The establishment of collections of art, and therefore in a sense that of museums of art, undoubtedly antedates that of collections of museums of science. In Greece and Rome, as I have remarked in a previous address, little attention seems to have been paid to the preservation of objects of nature, but the number and extent of the works of art of Greece were such that it was in a sense one great art gallery, while many Roman emperors are said to have possessed important collections of statues and other works of art. These facts accord with the principle brought out by Herbert Spencer that in human development interest in ornament usually precedes interest in utility. In Italy interest in art and the preservation of its works survived after the fall of the Roman empire, the church being a great patron and conservator of art. Also the interest in classical history aroused during the period of the Renaissance led to the excavation and preservation of many art treasures of Rome and Greece which, again, led to the establishment of some of the European art museums, especially those of Italy. The Louvre, the world's greatest art museum, was founded in the sixteenth century, but did not become of great importance until the time of the French Revolution when the people demanded an opportunity to view the art treasures which had hitherto been visible to royalty alone. The British National Art Gallery was founded in 1824, the German in 1866. In this country the establishment of art museums has been on the whole contemporaneous with that of science museums, although less extensive. The first institution of art in this country which later developed into a museum of art was probably the Phila-

delphia Academy of Fine Arts established in 1805. An art collection was established at Bowdoin College in 1811 by a gift from Hon. James Bowdoin and the acquisition of the Boyd Collection. In the subsequent period in this country until after the close of the civil war little was done in the way of establishing art museums. The Fine Arts Academy and Museum of Buffalo was founded in 1862 at about the same time as the Society of Natural Sciences of that city, under whose auspices a natural history museum is conducted. The Metropolitan Museum of Art of New York City was established simultaneously with the American Museum of Natural History in 1869. The Boston Museum of Fine Arts was founded in 1870, forty years later than the Boston Society of Natural History with its museum. The St. Louis Museum of Fine Arts was organized in 1879, and no public science museum has as yet been established in that city. The Art Institute of Chicago was established in 1879, the date being twenty years later than that of the founding of the Chicago Academy of Sciences and fifteen years earlier than that of the Field Museum of Natural History. The Cincinnati Art Museum was founded in 1881, eleven years later than the Society of Natural History of the same city. The Brooklyn and Pittsburgh museums, in which science and art museums are housed in the same building, were established in 1889 and 1896 respectively. The Act of Congress of 1846 from which the United States National Museum originated, mentioned first among those objects which were to be delivered to the custody of the institution, objects of art; but it is only recently, if I understand the situation correctly, that the carrying out of this provision as a part of the work of the National Museum has been undertaken.

In some cases, as in Brooklyn and Pittsburgh, as noted, the art and science museums are housed in the same building, and in some other cities art and anthropological collections, or art and historical collections are so associated, while in some fewer instances art collections form an adjunct to libraries.

Heterogeneity of aim has fortunately, however, for the most part been avoided and I know of no museum in this country to which could be applied a description given of a foreign museum of which it was said that it "accepted with equal gratitude oil paintings and South Sea war clubs, ship models and live snakes, collections of birds' eggs and illustrations of the manufacture of Tam O'Shanter bonnets;" or of another in which "a Roman altar dug up in a neighboring farm

supports a helmet of one of Cromwell's soldiers; above hangs a glass case full of butterflies, surmounted by poisoned arrows and javelins from the hill tribes of India; a large cork model of a Chinese temple blocks up one corner of the room while other parts are obstructed by a brass gun of unknown history, a model of an old three-decker, and possibly the embalmed remains of some one who declined to be laid under the turf." While in some communities museums which exhibit many classes of objects may be the most practicable and desirable form of museums, I believe that specialized museums wherever possible give the most satisfactory results.

But even where museums are specialized it is sometimes difficult to distinguish whether the chief interest of some museum material is artistic or scientific. A piece of agate, for example, has a mineralogical interest and would normally be placed in a mineral collection. But carve it and it becomes a work of art, and is placed in an art collection. But even in the carved form it has a scientific interest, since the carving illustrates the hardness, toughness and structure of the mineral. A painting may be considered a work of art, or it may be regarded as an illustration of the properties of pigments. In the field in which anthropology merges into art, and vice versa, there is opportunity for continual questioning as to significance. The problem seems to be solved rather curiously in some instances, for Peruvian mummies seem to be generally regarded as objects of science, while Egyptian mummies are considered objects of art, if one is to judge by a frequent grouping in museums. As a general principle for classification, that suggested by Lord Balcarres seems to be an excellent one. He urges that objects should be classified according to the quality for which they are most remarkable. "Thus, he says, "a musket or bass viol of the sixteenth century, inlaid with ivory and highly decorated, should probably be included in an art collection, while a common flute or weapon noteworthy for nothing but its interest as an instrument of music or destruction should suitably be classified as ethnographic."

From the list that I have given it seems evident that the municipally supported art museums are, as in the case of the science museums, the most vigorous and effective museums. The number of art museums established in connection with educational institutions is much smaller than that of science museums similarly established. It may be assumed, then, probably with correctness, that it is the appeal of the art museums, as that of the science mu-

seums to the general public which has met with the most substantial response. To a large extent probably the same public visits both the art and the science museums. It is, therefore, equally educated or uneducated in both subjects. May it be, therefore, that a pressure has more or less unconsciously been brought to bear by the public, leading to a demand for art in the science museums and for science in the art museums? For example, for most scientific purposes an animal skin is as useful as any mounted form of the animal. The skin shows size, coloring, condition of pelage and similar features needed for the knowledge of that portion of the animal. If science alone were presented by the science museums, the exhibition of rows of specimens would fulfill their entire function. But the visitor wants life, vividness, and action, or the semblance of it. Accordingly, partly from this cause perhaps and doubtless from other causes, there came about the introduction of art into the exhibition of scientific specimens, very meagerly at first, in such ways as the mounting of birds on branches, but later giving us the wonderfully life-like and elaborate groups which rival other sculptural works in their virility and beauty, and which have made of taxidermy a new and true art which seems destined to still greater importance. Partly from the same desire for vividness, perhaps, and partly from the need of representing the environment of an object in order to understand its place in nature, painted backgrounds also are now effectively and widely employed to aid in the presentation of objects of nature. That the function of such backgrounds should always be held a subordinate one in science museums I have urged in a previous address, but that if subordinate their function is a desirable one, no one, I think, will deny. Of much the same nature is the use, as backgrounds, of screens whose color and pattern conform to and elaborate the representation of the contents of cases. Notably successful work along this line is to be seen in the anthropological section of the Dresden Museum. Further, fresco paintings are employed in many scientific museums in order more effectively to represent the relations of the objects in a hall to their natural surroundings. Excellent examples of such work are to be seen in the Vienna Natural History Museum and in the anthropological section of the Museum of the Brooklyn Institute.

Besides these more striking and evident ways in which art may be pressed into service in the work of science museums, there are many minor ways in which an artistic sense and methods of art should be employed in them. From a theoretical point of view any elabora-

tion of installation is a matter of art, since theoretically at least science does not require any more installation than that of laying specimens in rows. Effectiveness of display must be solved largely by methods of art. For this work the curator of scientific collections needs to be informed in canons of art. He needs to know, for example, the relative values of straight and curved lines, the relations between different curves, the superior appeal of odd numbers, the principles of composition and design, the proper association of colors, and so on.

A collection, say, of butterflies arranged wholly from the standpoint of scientific classification might show associations of color and pattern which would be painful to an artist. The artist would equally shock the scientist if he arranged the collection wholly with a view to harmonies of color and pattern. But if in the scientific museum in displaying a collection in scientific order an effort be made to avoid disharmonies of color as far as possible, or if in the art museum while bringing out the best effects of color and design it is also endeavored to adopt an arrangement which shall also reveal scientific relations, will not the best results of all be obtained?

In a scientific museum it may be remembered also how largely the appeal of an exhibit to the public is based on color. It is the "pretty" birds and minerals and shells that first attract attention. This may be a psychological phenomenon rather than an artistic one, but whatever its origin, instead of ignoring it I believe it should be recognized and employed (always in subordinate fashion) to increase effectiveness of display.

To what extent science may be introduced into the management of art museums it would be presumptuous of me to assert, but suggestions are not unknown that a touch of the wonderful organizing power of science might make art museums more effective. Goode quotes a German critic of some European art museums as remarking that in some of them "A Venus is placed side by side with a Madonna, a satyr next to a saint, Luther in close proximity to a Pope, a painting of a lady's chamber next to that of a church. Pieces executed for churches, palaces, city halls, for a particular edifice, to teach some moral or historic truth, designed for some especial light, for some well-studied surrounding, all are hung pell-mell upon the walls of some non-committal gallery."

Surely the failure to classify should not be carried so far that objects of the same kind are scattered all over a building as has been reported of some art museums. Again, will not the importance of pro-

viding a proper environment for art specimens come to be appreciated in time by art museums, as it long has been by science museums? Are rows of specimens any more desirable in art museums than in science museums? Further, against the danger that for the effect of mystery with which great artists have through much painstaking been able to endow their works their successors substitute mere carelessness, what better safeguard is there than a touch of the scientific habit of thought? The custom of Claude to invariably make the boughs of trees part two at a time would be highly unsatisfactory to one of a scientific type of mind, and it seems likely that it should not be considered good art. Some artists are said to have a fixed scorn of measurement and of any distinctions of species, but do not such specific characters indicate the true nature of the object? May not the wonderful naturalness with which, for example, Leonardo da Vinci was able to endow his works of art have been due in part to the fact that he was a great student of nature as well as a great artist? In fact may not the mental attitude of Leonardo, as stated by Colvin, be worthy of imitation by all workers in art? "He found the way," says Colvin, "to unite precision with freedom and fire—the subtlest accuracy of expressive definition with vital movement and rhythm of line. Neither did he stop at mere appearances of any kind, but having stamped the image of things upon his brain he went indefatigably on to prove their hidden laws and causes. He soon satisfied himself that the artist who was content to reproduce the external aspects of things without searching into the hidden workings of nature behind them was one but half equipped for his calling. Every fresh artistic problem became to him a far-reaching scientific problem as well. The laws of light and shade, of perspective, including optics and the physiology of the eye, the laws of human and animal anatomy and muscular movement, the laws of the growth and structure of plants and of the powers and properties of water, all these and much more furnished food almost from the beginning to his insatiable spirit of inquiry."

In conclusion, what I have desired to say may probably be summed up in the words that in museum work Science may rightly say to Art—"I have need of thee," and Art to Science, "I have need of thee." Granting the need of such exchange of methods and of ideas, what better opportunity is there for meeting it than is provided in the gatherings and publications of this Association with its membership made up of those who are expert in art, science, history,

and other lines? The opportunity which is thus afforded is a rare one, one which can be granted by few if any other organizations, and instead of doubting its advisability, as has sometimes been done, we should, on the contrary, welcome it and gather its rich fruits for the advancement of museums. I have said nothing of the many respects in which all museums have common experiences, such as methods of administration and organization, methods of instruction, publicity, etc., but have simply sought to show that in these somewhat narrow fields in which there might seem to be little of mutual interest, there are benefits to be obtained from the relations of this Association which we cannot afford to overlook or neglect.

Following President Farrington's address, Dr. Holland reviewed the early history of the Association and called upon various members for remarks. After these speeches the Association adjourned.

SESSION OF TUESDAY, MAY 16

Morning

The morning session was called to order at 9.30 a.m., Mr. Henry R. Howland of the Buffalo Society of Natural Sciences presiding at the request of President Farrington.

The following paper was presented by Miss Eva W. Magoon, assistant to the curator, Park Museum, Providence:

A MUSEUM GAME

In these days of wide-spread "child welfare" propaganda, every one will agree that it is of tremendous and fundamental importance that the museum reach and interest the children. There are two ways in which the museum may go about accomplishing this end—like the proverbial mountain: (1) By going to the children. (2) By the children's coming to the museum. The former is in many respects the less difficult phase of the problem, provided an adequate system of cooperation can be built up with the public school department.

At the Park Museum we have been trying to build up such a workable system of cooperation between the museum and the schools of the city and state. Eight years ago, in the fall of 1908, the attempt

began. The curator of the museum made an occasional visit to the schools for a lecture, and various teachers and their classes made irregular visits to the museum by special appointment. This unsystematic work went on for several years, but with increasing demand for something more definitely regular, until two years ago, when a system of cooperation was established which was sanctioned by the school authorities and by the museum board.

By this system, a member of the museum staff visits every grammar school in the city three times a year for a course of lectures; and all the pupils of the 6A grade are required to visit the museum for definite instruction. All incidental expense, such as carfare and expense of collecting material for use in the schools, is met by the school department.

The complications of a lecture at the school are comparatively few, since the lecturer's actual responsibilities begin only when he goes on to the platform and end the minute he leaves it. Possible disciplinary matters are taken in charge by the teachers, and the general restraint of the school atmosphere is always expected. Though responsibility ends with the close of the lecture, influence does not stop there; and it has been proved again and again that the influence of these lectures is far-reaching. While sitting in my office one day this spring, I saw a group of boys approach a small exhibit of "birth stones." As they paused within ear-shot, I heard one of them exclaim: "Say, look here! Here's some of the stones Mr. Madison talked to us about at school last week."

The features of the other problem, the visit of a class to the museum, are much more complicated. The restraint of the school discipline sometimes disappears, in spite of the fact that the teacher attends the class. The holiday spirit is rife. The experience of a visit to what is possibly an unfamiliar place has its results, and the child may feel that he has been let loose in a storehouse of wonderful new sights which he must see all at once, and which he *must* see, even if, in his enthusiasm, he pushes aside a classmate. On the other hand, he may be so over-awed by the mixture of general new impressions that he does not know which way to turn or how to look for anything.

Decent service may be provided for the class if the group is small enough to give every one a chance to see the exhibit. But even the best decent work has its limitations, and numerous are the difficulties encountered when the class is large. For example:

1. Not all the children can see the exhibit at one time.

2. Because they cannot see, the children pay attention for only a short time to what the docent is saying.

3. Because they are neither seeing nor hearing what is going on, they become restless.

4. Being restless, they move about on the edge of the group, look at other exhibits nearby, and finally may abandon themselves to real mischief.

Any or all of these things disturb the group and a large measure of the success of the docent's work is lost.

After experimenting for some months, it was found that the simple plan which we finally chose to call "museum game" was adaptable to local conditions, and its use during the past year has met with even greater success than was anticipated. The plan is this:

Some member of the museum staff gives a half-hour talk on a stipulated, seasonal subject, and then the game begins. The children are given the freedom of the building. This phraseology may give you visions of uproar, disorder, and loud talking. But may I assure you that the actuality is not so described. And, if there are other visitors in the building, they often approach the official in charge to ask how it is possible to keep such a large number of boys and girls (sometimes as many as one hundred) interestedly busy and quiet at the same time. Perhaps therein lies the secret—they are busy.

To guide their freedom, the children are given cards containing in each case a sentence about something in the exhibits. Each sentence is a puzzle sentence, since in each there is some word omitted, the blank to be filled in by the child receiving the card. These sentences have been carefully chosen to contain some fact of interest and instruction that a boy or girl ought to know, and are worded in such a way that the idea is neither too obvious nor too complicated to be grasped. The following are typical sentences:

The.....bird builds a black, hanging nest of fibers.

Indian money is called.....

Mercury comes from a.....colored mineral.

In this way each child becomes an individual investigator of a particular topic. His surplus energy is wisely directed, and instead of rushing boisterously around the building, glancing hastily at everything and remembering nothing, he goes steadily about seeking one thing at a time. When one question is reported correctly to the

official in charge, other cards are furnished until the end of an allotted time, usually fifteen minutes, when the children are again summoned to the lecture hall. Each child then becomes a reporter of the facts he has gleaned, and incidentally picks up other facts by hearing his comrades report on their results.

This museum game has been found to have several excellent results both from the child's and from the museum's point of view. The spirit of rivalry and enjoyment in the game for its own sake makes a peculiar appeal to the child and arouses great enthusiasm. The museum becomes to him a storehouse of knowledge rather than a place for mere amusement. And besides having his interest in natural science stimulated, the child has received a lesson in independent research, concentration, observation, and memory. Instead of a confused jumble of ideas, each child has received one or more definite impressions of the museum exhibits. That the effect is lasting is shown by the fact that small groups of boys and girls return to the museum asking for permission to "play the game" by themselves.

The working out of the museum game plan has satisfactorily solved the difficult problem of disciplining the ordinarily boisterous crowd of children, because the mind of each child is occupied along a particular line, and excellent order is actually maintained by the boys and girls themselves.

There is nothing elaborate in this game to exploit, to be sure. A small museum can scarcely attempt many large-scale things. It is merely a timely suggestion for the solution of one of our mutual problems, offered for what it may be worth to those to whom the idea may be new, with the hope that in our turn, we shall receive suggestions from others who have been working out the same problem by other or similar means.

Chairman Howland.—"Miss Magoon's delightful game for children makes me think of an experiment we are now trying in Buffalo. It occurred to us some time ago that there was no more useful way of making the people acquainted with what the Buffalo Society of Natural Sciences has to furnish them in its museum than through interesting the Boy Scouts. So we have prepared a series of about seventy questions, which are printed upon sheets folded at the top and headed by the statement that the answers to these questions can be found from the labels in the museum cases. These are all numbered and

given out systematically by the Boy Scout leaders. After each question is a space sufficient for writing the answer, and at the end is a certificate to be signed by the boy, stating that he has obtained the answers to the questions by studying the labels in the museum without the help of any other person or of books. The boy who accomplishes successfully what the questions require receives a medal prepared jointly by the leaders of the Boy Scout movement and by the Buffalo Society of Natural Sciences. This becomes a badge of merit for the Boy Scouts. In hunting for the answers to the questions the boys have to study many other things, thus becoming familiar with the museum as a whole. When they go home they tell their parents about their visit and this helps to encourage the interest of the people in the work of the Society."

Mr. Henry L. Ward (Public Museum of the City of Milwaukee).—"I feel that Miss Magoon has the correct idea of interesting children. Anything that makes the children take an active part in the work helps to excite and maintain interest. In Milwaukee we have not issued cards, but our formal lecture to about two hundred school children every morning is preceded by a certain amount of questioning of the children by the lecturers and it is quite pleasing to see the rivalry as to who can get their answers in first. Our regular lectures are illustrated not only by lantern slides but by moving pictures, the latter being used in very short lengths. We seldom let the movies run more than thirty to forty-five seconds at a time. After the lectures, the children are taken into the museum proper for what I have been pleased to term laboratory practice. They are divided into two groups and are handled by four people, our two lecturers and two attendants who have been specially trained for the purpose. Our method of instruction here is to ask the children to find animals that illustrate certain principles developed in the lecture. One of our lecturers calls this teaching the children how to read the animals, and he has so trained these children that, after the manner of Sherlock Holmes, they are able to tell a great deal about a new animal from its appearance.

"We have very little difficulty in the matter of discipline. Of course the children make a certain amount of noise, but real disorder is conspicuous by its absence because the children are so deeply interested. I think this is due to the idea that Miss Magoon has emphasized of giving the children the active end of the work."

The Chair.—"Next on our program is a symposium reporting

further progress in the use of museums for instruction in the history of civilization, arranged by Miss Anna D. Slocum in cooperation with the Woman's Education Association of Boston."

Miss Anna D. Slocum then presented the following paper:

A STUDY OF NATIONS THROUGH THE MUSEUM

INTRODUCTION

The papers to be presented this morning show us how the museum may aid the school in battling with some of the educational problems that a new era is bringing to us.

Museums of science and of art can combine to give a vivid presentation of man's existence on the earth from primitive days down to our own time by showing the implements, weapons, and objects of art that men and nations have created to fill their practical and esthetic needs. The museum thus opens a comparatively new approach to history, adding to the written word the vital appeal of actual objects and of art. While the text-book deadens the past, the museum should make it live again in the mind of the student as he follows man's advance through the ages, and observes and compares the contributions that the different nations have made to the civilization of the world.

The study of nations through the museum opens new and timely opportunities for the broader education that our present day requires. Education in its wider meaning has been aptly described by Huxley as learning the rules of the mighty game of life, these rules being the laws of nature, a running counter to which precipitates defeat and death, while a knowledge of how to utilize these newly discovered forces brings progress and richer life. "In other words, education is the instruction of the intellect in the laws of Nature, under which name I include not merely things and their forces, but men and their ways."

The present tendency to study individuals and groups through their activities and from the wider range of long stretches of time, is seen in the recent book, by the president of the American Museum of Natural History, "Men of the Old Stone Age: Their Environment, Life and Art," which not only emphasizes the great antiquity of man and the slowness of his progress, but also shows how ancient are his powers of observation, invention, and discovery. The book

thus throws a new light on the hidden laws that are working through "men and their ways."

The museum of science carries the study of man down through the long ages of primitive life onward to the museum of art which holds the monuments that embody the spirit and ideals of the great epochs of the world, for it is the museum of art that reveals through its collections the progressive contributions that the nations have made to the world's civilization.

The papers which follow, it is hoped, will reflect in miniature a larger movement of the time—the search through a study of "men and their ways" for the more subtle laws of nature that play through man's activities, laws that gravely challenge, with life and death issues the ceaseless effort of individual and nation to discover them, rules of the mighty game that, once revealed and followed, will in time develop the logical attitude of mind that will seek to utilize the power of these laws to turn drift into mastery, and to make for constructive and creative cooperation among the nations.

Miss Delia I. Griffin, director of the Children's Museum, Boston, presented the following paper:

HISTORY STUDY AND MUSEUM EXHIBITS

At the Milwaukee meeting, the writer described an experiment undertaken during the winter of 1914 by one museum—a simple study of the history of civilization as it developed along the lines of man's great material needs.

"Food" was the subject of that season's study, "Clothing" was taken the second year, and "Shelter," leading to a consideration of architecture, was studied the past winter. Before going into the subject-matter, the personnel of this Industries Club warrants a few words. The members are upper grammar and high school students, both boys and girls. The original membership was fifteen, ten have been in the club all three seasons, while this year the number has increased to eighteen. Perhaps the formal organization has been a factor in holding the young people together, for officers are chosen, committees appointed, and meetings conducted according to the best parliamentary usage. It is emphatically a society *of* the boys and girls not *for* them, and the members feel responsible for all the activities and plans other than the lectures—while their questions furnish the basis for many of these!

During the first year, considerable hand work was done by the young people, especially in the line of designing and modeling clay dishes. The second year's study was favorable for collecting, and exhibits of raw materials and finished products of cotton, silk, linen, and wool were made. These have been incorporated into the industries department of the museum and there serve to increase the value of our collections and also to stimulate other classes to similar lines of work.

A special study of silk was made a year ago this summer by three members of the club. Some fifty half-grown silkworms were presented to the museum by an investigator in the Bureau of Ethnology, and the boys undertook their care. A white mulberry tree was found within a hundred feet of the building and the voracious worms were fed twice daily for a month or more. The boys studied books on silk-culture, and, lacking bamboo, made baskets of willow twigs for the silkworms when they were ready to spin. One basket closely filled with cocoons, was baked according to instructions and placed with the museum exhibits. Other cocoons were put away in the club room, watched, and, when the moths emerged, some were preserved for the collection, others reserved for the breeding of next season's caterpillars, and finally some cocoons were dipped in boiling water, and the fine threads unreeled and wound upon spools. This work requires the utmost care and patience for the silk thread is so fine that the slightest pull will break it, but the boys have a half dozen spools of hand-wound silk of which any Chinese merchant might be proud. Incidentally, their neckties now have a meaning other than that of convention or beauty.

During the past winter, the club has collected pictures illustrating their somewhat simple course in architecture, some members have made studies and reports of various famous buildings, and others have brought to the meetings excellent sketches. A large scrapbook holds these evidences of the winter's work, but the most valuable result is the intimacy gained with the prominent buildings of Boston, their history and the significance of their architecture. Trips have been made to various parts of the city, the young people viewing with critical eye churches, State House and college buildings. The value of their study lies not so much in their ability to recognize a Corinthian column or a Gothic church, but in their power to really *see* the building at which they look, and to form some judgment of

the meaning of its structure and gain standards of beauty as expressed in wood and stone.

Further, the three years of this Industries Club have brought its members into definite touch with the Art Museum and have taught them to visit that vast treasure house and select from it, one section at a time for either instruction or pleasure. As a result the boys and girls are now on terms of familiarity with some rooms, and their satisfaction in this acquaintanceship is enhanced by the fact that many sections are still unknown territory awaiting exploration. A general knowledge of the industrial life of the city has also formed a part of the study of the club. Visits to various manufacturing plants, and exhibits sent from other factories, have aided in placing modern, practical methods before the boys and girls. The recent Textile Exposition was "taken in" by every member!

While our study of the history of other races began with the Industries Club, it has by no means ended there. Indeed, the ethnological material in the museum has really been used as much or more in connection with other activities. Lectures on the life, customs, and development of the people in China, Japan, India, the Philippine Islands, and other countries represented in the museum collections are arranged for those grades which have been studying these countries geographically. The plan has a two-fold advantage. First, as a result of preliminary study of geographic conditions and their effect on the past and present life of a people, our pupils can more readily understand the development in civilization effected by a race, and they can use the museum exhibits to far greater advantage because of this correlation with school work. In other words, the museum is assisted by the school work. Secondly, we are able to present the historical lessons in a more graphic manner, and with more variety of method than can the teacher whose only tools are books and pictures and whose only field of operation is a schoolroom. The pupils who study in the Children's Museum may hear illustrated lectures on the Philippine Islands in the classroom, then go to the cases and examine the clothing and handicraft of the Igorots and Moros and finally compare it with that of the North American Indians. So the museum has both broadened and supplemented the course of study as laid down by the school board. The implicit faith which some teachers have in the powers of the museum was evidenced by one who requested a lesson on "The

Savage Peoples of the World"—a large order, it looked to be at first—but it was filled to the evident satisfaction of teacher and class.

When these lessons based on the illustrative material in the museum are supplemented by special talks given by representatives of these countries, the impression is deepened. Three or four races have been represented in the past year—the Japanese, the Chinese, and various tribes of the North American Indians.

Finally, a series of talks was planned for the high and normal school students with the design of giving them some familiarity with and comprehension of the ideals of the Japanese people. Mr. Kijiro Tomita was the lecturer—the country, its customs, festivals, and art forming the basis of his course—and the exhibits of the Children's Museum were supplemented by selections from the wealth of material in the Museum of Fine Arts.

Here, in brief, is the beginning made by one museum in the use of its ethnological material and in the training of its visitors to appreciate and use its collections instead of giving the specimens infrequent, hasty surveys.

Miss Margaret E. Sawtelle, instructor in the Worcester Art Museum presented the following paper:

MUSEUM STORIES OF ART AND CIVILIZATION

At first thought the history of art and of civilization may seem separate and distinct. But after all, what is art but the expression in esthetic form of what civilization has achieved? To study civilization without the arts it produces is to study a plant without its flower. On the other hand, to study art without taking into consideration the type or progress of the civilization that evolved it deprives art of one of its most interesting qualities—its humanness. While, therefore, in an art museum it seems logical that the aim of a series of stories should be to give an acquaintance with art, it is hoped that such stories may contribute to our study of civilization by constantly using the latter as an indispensable background.

The story hours at the Worcester Art Museum are held every Saturday afternoon from the first of October to the middle of April. The lively audience consists (on the average) of about sixty children from nine to thirteen years of age, coming chiefly from the foreign-born section of the city. The story lasts three-quarters of an hour, and is illustrated throughout by lantern pictures. After the talk,

the boys and girls may go to the children's room to draw or do picture puzzles, or may visit the galleries in small groups. There, under the direction of our volunteer assistants (from normal or art school) they find objects connected with the story, or play gallery games.

These story hours have been held in various forms at the museum for six years. The particular kind of story I wish to describe, however, we first used three years ago. At that time, we gave a series called "People and Houses of Long Ago and Now." As this series was described at a previous meeting of this Association,¹ it is enough to say that the talks traced by narrative and discussion the development of architecture.

The second series was called "Stories of Pictures, the Magic Mirrors of the World," a phrase borrowed from G. Baldwin Brown's article on painting in the *Encyclopaedia Britannica*. Here we had three purposes in mind: first, to familiarize the children with the paintings in the museum by connecting the story each week with one of our own pictures of the same period as that of the artist for that day; after the story we all went to the gallery, examined the picture, learned title and artist and returned to the lecture room for a few moments' discussion.

The second purpose was to trace the development of painting from the spirited animal drawings of the cave dwellers down the ages to modern American landscapes, and thereby to give the children some realization of the slow centuries of conquest necessary before painters completely mastered their craft, so that they would no longer consider a picture just as a finished product, but might see in it the outcome of a struggle to solve the problems of perspective, light and shade, etc.

The third purpose, embodied in the title of the series, was to show how paintings, whether on the rock ceilings of caves or on monastery walls, really were mirrors of the world in which the artist moved; how from them you could often discover the way in which the artist and his friends lived, what their homes and lands were like, what thoughts and feelings and interests they had. A few titles will suggest the ground covered:

The oldest pictures in the world (cave-painting).

Stories told by Egyptian wall paintings.

¹ *Proc. Am. Assoc. Mus.*, VIII, 1914, 51-53.

Leonardo, Searcher of Secrets.

Velasquez, the Truth Teller.

Albrecht Dürer's strange dreams.

Watteau and Chardin, who opened palace gates and cottage doors.

The stories devised to serve these purposes had two elements. One was a simple narrative, setting forth the life and times, together with enough picturesque or important incidents to give a connected idea of the artist's career. The other element was a brief discussion of the artistic qualities of his work. Here, as in the architecture stories, it was felt that a mere statement of such qualities would mean little to the children. So instead, by means of questions they were led to discover these qualities from the pictures themselves, and tell me rather than my telling them.

For instance, in the story of the van Eycks we began by describing the long struggle of the Flemish to win their land from the sea and to keep it in freedom, and their consequent love of that land, their houses and everything in them, and their preference of real things and thoughts to visions. Then we turned to the story of Hubert van Eyck and his little brother Jan, their boyhood in the village of Maaseyck, the old monastery where they used to go to pore over illuminated books, their travels in Germany and return to Flanders. When we showed the pictures they painted there, the children were all ready to discover in them the real world the Flemish loved—portraits of real men and women, Madonnas and angels with plain faces like those of the Flemish themselves, rooms like those of Flemish houses, with glimpses of the canals and meadows of Flanders seen through windows or arcades. They found a likeness in the delicate detail of the van Eyck paintings to the pictures in the monastery books, but they could see too that the van Eycks never let these little things keep you from seeing the whole of the picture.

This year, instead of trying to follow a single branch of art through the ages, a rather different plan was tried, partly because the story teller found it a little strenuous to master a new historical or artistic epoch every week or two, and partly because she longed to go deeper herself, and to make the children more intimate with a few great periods. So this year's series was called "Journeys across the Sea," and took up the life and art of ancient Greece, France in the Middle Ages, and Japan, as three nations or periods in which art has been a particularly rich and spontaneous expression of the whole people.

The purpose here was to show how in a given nation and time similar subjects and principles are common to all the arts, and how these arts are the outgrowth of the people's civilization and the expression of their ideals.

For each country two groups of stories were used: a "background" group taking up the myths and legends, daily life, and surroundings, followed by a group in which architecture, sculpture or painting, and various minor arts were discussed. For Japan, for example, the titles were as follows:

Nippon, the land of flowers and gardens (a description of the land itself).

The gods who dwell in the High Plain of Heaven (the early mythology).

Hero legends and fairy tales (the deeds and ideals of Japanese knights).

The Feast of Flags and the Feast of Dolls (festivals and customs).

The little house of O Mume San (Japanese houses).

The shadowy temple of Buddha (temple architecture).

Hokusai the Painter (Japanese prints).

The Princess's lacquer box (lacquer making).

The story of a Japanese tea cup (porcelains).

The outline for the "Princess's lacquer box" will illustrate the method of the story:

A little princess has been born in the castle of the Daimio of Satsuma. After the various birthday celebrations the Daimio sends for the court lacquer maker and commissions him to begin work at once on the lacquer outfit which the princess will need when she is old enough to be married. The lacquer maker sets off for the grove of lac trees with his little wooden pails to hold the lac and his sharp knife to gash the bark. Then follows the description of how he gathers and purifies the lac, makes an incense box of pine wood thin as paper, applies the various coats of lacquer varnish with long dryings and polishings, and finally decorates it. At this point the children are asked to suggest what subjects of decoration the lacquer maker would be likely to use. They know from earlier stories what the Japanese love or are interested in, and so they volunteer "pictures of outdoors, of flowers, birds, dragons, etc., and of people like those seen in the Japanese prints." When asked in what besides subject these pictures in lacquer are like the prints, they tell you, "In the lines." "Are these lines real," we ask, "that is, just like the lines of real things?" "No," they say, "they are more beautiful and alive," and you suggest that probably the artist had studied real things, sea waves for instance, so long and patiently that at last he could shut his eyes and see in his mind lines that would tell you at once they were waves, and that yet were in a way more beautiful and full of life than any real waves ever were.

After this little discussion we went back to the lacquer maker, who after fifteen years of work is at last ready to take his lacquer boxes to the princess on her birthday. He then displays them one by one (the children sometimes guessing and sometimes being told the use of each box and the meaning of its decoration, as it appears on the screen). At the end there is time to give something more picturesque to fasten the subject to by telling the story which the princess's maid tells her when the two are looking at the boxes together, the story of Urashima the Fisherman, who traveled on a tortoise's back to the palace of Rin Jin, the Dragon King of the Sea, married the sea princess, and was given by her a precious lacquer box which, through a series of adventures and because of a broken promise, brought him to sad disaster. The stereoptican views for this talk showed Japanese landscape, scenes from Japanese prints, and pictures of actual pieces of lacquer in the museum.

There are several general results we have hoped for from these stories: making history, geography, and literature more vivid; giving to art objects their true meaning as the loving labor of real men in a real world; and opening the children's eyes, not only to the beauty and interest of things in a museum, but to the delight of really seeing wherever they go. But the best result of all is one which was certainly achieved in the talk which Mr. Tomita kindly came from the Boston Museum to give as a finale to our Japanese stories. Clad in his own Japanese costume he told of the life of Japanese children, illustrating his words by blackboard or ink sketches, and by delightfully manipulating real things—chop sticks, tea cups, and the like. Among the ninety children who sat spell-bound for an hour and a half was a little girl seven years old. Before going to the story she had said with a giggle, "I guess a Japanese man will be funny, won't he?" But when she came home she said, "I think the Japanese are about the nicest people in the world." To create such a happy sympathy with any nation probably requires, as in this case, an individual of that nation. But such simple stories as we have described may, we hope, help to open the door by which that sympathy can enter.

Mrs. Laura W. L. Scales, museum instructor in the Museum of Fine Arts, Boston, presented the following paper:

THE MUSEUM STORY AS AN INTRODUCTION TO HISTORY¹

Since the school, even in these modern sugar-coated days, must be the child's place of duty and drudgery, we feel glad when the

¹ Museum of Fine Arts, Boston, winter of 1916.

children come to us on a Saturday afternoon that the museum is not a classroom nor the museum story, a lesson. In the art museum, we are free to give them the happiest time possible—to make good to them our current phrase, “to enjoy art.” So, as a natural introduction to such enjoyment, we have given them a story-hour and the chance to see over and over again beautiful things, until a sculptured boy becomes an old friend and a helmet or dagger calls up the picture of a knightly tournament. “Why, the children do not look fagged!” says a surprised spectator, as if all that was expected of museums was to wear out children.

And just as story, picture, and well-known object in the museum have come to make art familiar and friendly, so they may serve history or nation-study, supplementing the facts of the schoolroom. It was the remarks of a high school boy and girl visiting our galleries which whetted our zeal for such an attempt. “Well,” said the boy, looking at the handicrafts of the ancient Egyptians, “I begin to suspect that if it were not for these Egyptians we would not be where we are today;” and the girl in the classical galleries: “I am glad I came here, it answers so many questions I have been asking myself, questions about how we got where we are today.”

To seize hold of all the charm and romance stored up in our objects of beauty and antiquity and to weave them into a background of glowing colors behind the dull or lifeless fact of a school history or geography, seemed an aim worth while. So the attempt was made this winter in a series called “Stories of the Life of a Boy or Girl in Many Lands,” beginning with an Egyptian boy in the days of the pyramid-builders—the architect, and ending with a Japanese boy in our own times—the craftsman. We had lantern slides of the time and country to vivify the story as we went along, and we followed them by a visit to the galleries so that eyes might see, though hands might not handle, the actual authentic products and survivals of the period. Thus art made far-away things come true and history made art human. So thoroughly did the two go hand in hand that some days after the story of the Greek boy a high school girl asked (somewhat to one’s dismay) if the museum had not a picture of Megacles, our purely imaginary boy of the story.

It was in order to use the story as a lever for rousing wider sympathies, as well as to fit it to the work of the schools and to take advantage of the varied collections of the museum for illustration, that this year the experiment was tried of telling original stories

instead of borrowing as usual from the rich store in books. To show the similarities in other lands and ages of a boy's heart and will, to picture a true and vivid setting to times known only by name or fact, to give a glimpse of some typical legend, drama, or poem of his country which unconsciously to himself influenced the boy's life, to do it all without giving the listening children a clue to any motive beyond that of an intense interest in the story itself, was the effort made in planning each story. And it was, of course, the appeal of the individual boy that one counted on. Against the pages in the history about the athletic training of Greek youth and the great age of sculpture in Athens, one set Megacles, the boy-winner of the Olympic boxing match, who from babyhood had caught in his father's studio the love of bronze and sculptured marble until to become a sculptor was his dearest ambition. Similarly, against a latent distrust of the East and its strange religions, one pictured Saracen Yusuf, who risked the disfavor of his own people and even his life rather than break his word of honor given to a mere Christian crusader. Perhaps a quick summary of one of these stories will show most simply the method and end of the series:

Francesco, the Italian boy of the late middle ages, the artist-monk-to-be, lived in a little hill-town with his widowed mother. After a day which had begun with no bread, and when the little fellow had played in the fields and heaped the marble feet of the good San Francesco at the monastery with primroses, his mother's tears and kisses had taught him that it was the pleasure of the saint which had at last brought food. But the mother died and the friendless Francesco was sent to be brought up as a novice at the monastery. Cut off from the gay, free life of the fields, in the midst of rules, lessons, and prayers, Francesco's heart fed itself on the painted pictures in the books and on the stories of St. Francis which the prior read at nightfall, until his days were swallowed up in teaching himself to draw here, there, and everywhere endless faces, or in trying to tame the birds and understand their song. Naturally there followed the prior's reproof and the boy's resolve to run away. But, seen and captured by two thieves who were that night robbing the sacred altar of the chapel, he was led off to play the mountebank with them. In wandering from town to town and seeing their wonderful paintings, Francesco would now have been happy, but always from the pictures above the altars the eyes of the Virgin looked at him with reproof to remind him of broken vows. At last by a bold stroke he freed himself from his rough masters, and while he was still hesitating between the open road and the straight and narrow path to the monastery, along came a knight who saw and marveled at the lad's skill in drawing, set him on his horse and carried him off to Florence. There he was apprenticed to an artist. Times of ecstasy were these to the growing boy; yet still in the churches the Virgin looked coldly upon him, and on Good Friday in the monastery of San Marco her gentle eyes overcame him. That year the

dove in the ceremony of the *Scoppio del Carro* did not run true, a bad omen, and on Easter morning the great preacher in the cathedral inveighed against them all for their sins, and Francesco after sleepless nights of uncertainty went out to the fields and lay under a tree to reflect on his course. And then the miracle happened: answering the bird's song above his head came an angel voice speaking to him—the voice of the good San Francesco, of course, singing once again and for him his duet with the nightingale. And so Francesco went back to the monastery, where soon afterwards he began to show on its walls Madonnas only a little less lovely than the great ones he had seen.

Thus Francesco's story, obviously borrowed from many sources, reflected the mingled superstition and piety of the Middle Ages, the dominating place of the church, the absorbing love of art, the life of the strolling minstrel and of the knightly patron of art, and above all, the legends of St. Francis. In some such fashion, too, the England of Drake and Raleigh and our own colonies on the eve of revolution were suggested in the stories of Devonshire Hugh and of Patience, the hardy patriot-girl.

To make any comments on the results of the series is impossible beyond the saying that the stories are evidently not forgotten by a small group of the children who have come back each Saturday since the story-hours ended in order to go into the galleries again, there to play the "research game." This big name for a simple thing means that with the help of question or suggestion, they hunt up some object which they roughly draw. One has to admit that in their attempts, art is not glorified of her children, but for an enthusiasm in her works which persists through many successive Saturdays one has only admiration.

Mrs. Agnes L. Vaughan, instructor in the Metropolitan Museum of Art, presented the following paper:

TEACHING HISTORY IN THE MUSEUM

It was not practicable this year to continue the plan of teaching the history of civilization in The Metropolitan Museum of Art, following the same method which I used in presenting the study of the origins of society, and which was described to you two years ago.¹ It would have been exceedingly interesting to have carried the same group of students into a study of historic peoples, but that was impossible owing to the graduation and consequent scattering

¹ *Proc. Am. Assoc. Mus.*, VIII, 1914, 33-39.

of the class. I have not carried on the study with a special group, but shall tell you the general plan of assistance which we endeavor to give to students of history, and certain novel phases which we have developed. In the first place, we have met the requests of teachers of history who have wished to bring their classes to the museum for single visits or for a consecutive course correlating with schoolroom work. They are given a lecture with illustrations, followed by a visit to the galleries, or are conducted directly to the actual objects. The lectures deal with the setting of a period, its architecture, manners and customs, the arts, and the predominant art expression of the time and place. The study of the origins of society was called the background of history; these studies among the arts might be called the *historical background*, if you can see any distinction conveyed in the phrase. In this work, whether treated in single visits or in series, I have tried again to implant the idea of the unity of the human race, emphasizing the expression of the fine arts as a complex development of the same instinct for invention and beauty which manifested itself in the primitive arts, modified in various nations by the character of the people and their environment. With every form of art, in every country which we have studied, we have tried to reach some understanding of the traditions and influences surrounding it. We have read portions of the Koran, and discussed political states, religions, and fashions.

A class consisting mainly of Jewish boys, studying medieval Europe, attached its interest chiefly to armor and was quite unresponsive to, in fact shy with, the religious art on which our attention was to be focused. Hoping to arouse a response, I used two of the museum periods in explaining the meaning of the cathedral sculptures, the "Mirror of Nature," the "Mirror of Instruction," and the legends of the Madonna and the saints. We talked in the classroom with photographs and gathered in a compact group before the Catherines, Georges, and Martins in the galleries. Afterwards the boys delegated one of their number to thank me for "the most interesting days they had enjoyed in the museum."

One of the pupils is a Chinese boy who listens with profound attention, but with suspended judgment. His interest manifests itself mainly in criticisms of composition, which he thinks should be orderly and uncrowded. He is my test for my ability to make these youths comprehend the life that moved among the works of the past, inspired and produced them.

Another group of boys from a commercial high school knew nothing about art, except that art objects cost a great deal of money. We studied armor and tapestries from the utilitarian viewpoint, their commercial importance, the laws and social conditions regulating their manufacture, and, interwoven with the facts, allusions to and comments on the quality and the art value of the examples which we studied. This part of our lesson was emphasized during the last session by the addition to the group of an art club of boys from another school. One boy's comment on this lesson was: "As soon as they began to hustle their pieces, they didn't do as good a job." I think the boys gathered two ideas from these lessons, one in regard to organization of labor and one in regard to standards of excellence in production.

Besides isolated or related history talks, we have given two series to children of members. The audiences varied in age from five years to eighty. We planned the talks for children of ten. The titles of the lectures were chosen with a view to spurring the curiosity of the children who were invited to attend. Subjects used in the first course were "Toys of Long Ago in Egypt and Greece," "Heroes and Monsters Illustrated on Greek Vases," "Children on Canvas," "A Sculptor and his Clay," "Men of Iron—Tales from Froissart." In the second series we made the titles quite obscure and without explanatory sub-title. Of course it was not difficult for the grown-ups to guess that "Queen Matilda's Needlework" referred to the Bayeux tapestry, or that "The Little Poor Man" would tell the story of St. Francis; but "The Child in the Vatican," and "Court and Wilderness" were really mysterious, and I do not think they were guessed until the audience actually heard the story of little Federigo Gonzaga's experiences as a hostage in the hands of Julius II, and until the court proved to be that of Henri IV, and the wilderness, our own America, explored by Samuel de Champlain.

A course of lectures to high school pupils, intended to present some vivid phase of chosen periods of history, was arranged after conference with history teachers, and followed the textbooks in use in the schools. It was given by invited lecturers and by members of the museum staff. Teachers have told me of the comments and reports their pupils gave them on these lectures, illuminating, although perhaps not always illuminated. Once in a while an echo comes to us of the actual definite effect of museum visits on school-room work. Of course, this is very gratifying, but we do not expect

it often. We hope for a general rather than for a particular effect, and the aim of teaching history in the museum is to give a broader outlook to the students and a better understanding of human society, rather than to lay emphasis on the relations of facts.

For the assistance of teachers who wish to conduct their own classes or to familiarize themselves with the collections relating to various periods, I have prepared lists of objects which will give the background or which have a direct historical association. It is proposed to arrange this data in handbook form for the use of teachers and students of history.

Mr. Franklin will tell you about his model of Penshurst, an English hall of the fourteenth century, with its furnishings and figures. This model is used constantly in connection with history and art. Are we discussing tapestries? We go to Penshurst to see how tapestries were used in dwellings. If furniture is our subject we note the sideboard and carved seat, the chests, and trestle tables; and in every case we feel the life, the vivid, absorbed figures grouped about the board and the fire, the splendid aloofness of the lord and lady with their gay serving-page, and the long, slim jester interested in the long, slim hound. We are reminded of old ballads, and of old Froissart, of the Black Prince who feasted in this very hall, and of later days and the fine spirit of Philip Sidney.

There is no suggestion of a doll's house in the model, the scale being maintained strictly, and, although the lighting is cleverly managed to combine the glow of the fire and the flare of a torch with the cool moonlight outside the windows, there is no theatrical effect. The figures in the hall have none of the simpering detachment of dolls and are so engrossed in their occupations and in each other, so unconscious of spectators, that they seem to be actual people seen through the small end of an opera glass by a visitor in the fourth dimension.

Other models are in preparation which will help to enhance the meaning of the decorative arts by placing them in their relation to the life of their time. In the study of history, the arts have deeper significance than that of historical background. They are living forms of beauty as real as the hand that made them. They endure when histories vanish and peoples perish, and our teaching is without avail if it does not awaken an appreciation of the inherent need for beauty and its expression and the fulfilment of that need in all ages. Perneb the Egyptian built a tomb in which his body was to be pre-

served forever, and his Ka to have an abiding home. Perneb's body has crumbled till only fragments of it remain, bits of bone without individuality or distinction. But Perneb's tomb, built and endowed with carvings in the rock, endures, and stands for his own and his people's immortality.

Miss Lotta A. Clark, Normal School, Boston, presented the following paper:

THE MUSEUM AND THE SCHOOL

Athene sprang full-grown from the head of Zeus and in a similar way America sprang full-grown from the brain of Europe. They both lost the opportunity of growing up from childhood and their wisdom far exceeds their emotion. America needs to have her emotions stirred deeply, as anyone's emotions are stirred when the deeply-rooted associations and possessions of one's childhood are concerned. There is a wide gap between Americans today and the childhood of the varied nations of the world whose descendants make up our nation. If we can bridge that gap and bring to all American children a true understanding and appreciation of the origin, the struggle for progress, the achievement of the fruits of civilization of each race that contributes to our people, we shall have a binding force of sympathy and of mutual pride which, with its wonderful unifying power, can strengthen and perpetuate our nation.

Out of the childhood of each people come the myths of its gods and its heroes which found and produce its religion, its literature, and its art. A knowledge of the world's great myths belongs to every child and is the foundation stone of the bridge to span the gap which we have mentioned. A prominent New York clergyman has recently said that we cannot understand a nation at all until we can read its literature in its mother tongue. Even if we grant this to be true, we are bewildered at the thought of teaching American children all the languages of the people who make up our nation. So we must find other ways. One of the surest ways is through its history and its art.

When a young person has become familiar with the history of a people, the knowledge—of the masterpieces it has produced and of the objects it has made and used—is the strongest link of sympathy possible. But the knowledge must be intimate and personal; it

must be the kind that stirs the emotions or it is transient and leads to nothing productive. How a museum is to make it possible for young people to feel at home there and to get intimate and personal connection with objects so precious that they necessarily must be entombed in glass cases, is very difficult to see. And yet in my judgment unless the sepulchral atmosphere of the museum can be dispelled and the children made to feel at home with the objects and through them with the people who produced them, our work is very largely done in vain. Furthermore, unless our children gain this familiarity while they are comparatively young there is little hope of their doing it when they are older.

Many of our cities are justly proud of possessing museums of fine art. The question is "What difference do these museums make to the cities where they are situated?" The possessions gathered within these buildings represent many millions of dollars. They are the masterpieces of nations which have produced them and should be the means of interpreting to us the ideals and capabilities of the people who produced them.

Many thousands of people visit museums in the course of the year. They go from room to room, pausing a moment before the pictures or the cases, and when they go away feel on the whole that they have enjoyed and profited by the visit. But there are many more thousands of people who never enter a museum at all, who regard it rather as a tomb for the things of those who are dead and a place to be avoided. It is noticeable that a large number of foreigners visit our city museums, and there are two obvious reasons why they do this. In the first place they are trying to learn all that we have to offer them, and the museum with its collection of beautiful objects is open free to all who care to come and learn on Saturdays and Sundays. In the second place it must be a satisfaction to many of these children from Europe to find in the museum, vases, statues, pictures, and coins which have been used by the people of their own country even at a remote time. They feel here the connecting link to their own childhood and to that of their people. It must stir in them deep wells of pride and satisfaction to know that the masterpieces of their native country are regarded as precious possessions in the land of their adoption. Those who are wise enough to consider it, see that these people from foreign countries may pour into our national life many of the same elements of achievement of which our museum has a valued collection, and if we would have a child

of our school understand the riches of those nations which are feeding ours so powerfully, how can we do it better than by helping each American child to get the intimate touch with the masterpieces of the civilized nations that we have collected in our museums? Some slight evidences of success encourage us to work to any extent to get more of it.

The officials of our museum in Boston have been most helpful in making it possible for us to undertake this work. They have generously issued tickets to teachers and pupils which have made it possible to make frequent visits to the museum. They have published catalogs which are simple and helpful to pupils who are visiting the museum alone. They have made special lists of objects in the museum which could be used as preparation for visiting the museum to study the special periods of history, foreign language, and other subjects. They have sent their specialists to the schools to give illustrated lectures in order that the children might feel familiar with the objects before they reach the museum, and might recognize them and recall their significance when they find them in the museum.

The talks given by the docents to the children who visit the museum either alone or with teachers are wonderful helps to many teachers who could do almost nothing in museum work without this assistance, and this leads the children into the habit of visiting the museum on their own account and of applying, themselves, to the docents for information and instruction.

Another service of very great importance is the help given by the museum to teachers and pupils in selecting material for decoration of their own schools and classrooms. It is often the custom for classes to make presents to the school and in the course of a few years considerable material more or less decorative accumulates in the school buildings. Where no special plan of decoration is followed, these pictures and casts become a somewhat unpleasant possession of the school, and it is believed that if some thought is devoted to a constructive and artistic plan of decoration a great gain might be made not only in the appearance of school buildings but in the collection of material that would be valuable from an artistic and educative point of view. To help carry out this plan, Mr. Elliott, of the Boston Museum, arranged an exhibition of rugs, vases, paintings, and prints in the museum and invited teachers and classes to visit it in the hope that a knowledge of the prices of

these unusual forms of decoration would prove of assistance. In addition, loans of materials from private collections were made and two schoolrooms were beautifully decorated as examples of what might be accomplished in this direction.

Through the assistance of the museum also, objects like coins and vases have been loaned to the schools and actual association with these objects has done more than anything else to bring about in the minds of the pupils an appreciation of the people who made them. An invaluable service has also been rendered by the museum school in making plates in water color of historic and artistic costumes. These will be the valued source of material for study and use for many years to come.

In closing, may I cite a few instances of the intimate experiences that some of our students have had with original material this year. They are to be teachers next fall, and we are anxious to send them forth with some real and deep appreciation of the nations whose history they are to teach to the children. They have tipped a kylix to their lips. They have studied Greek coins at their leisure, and have bought some for themselves. They have held in their hands a vase made in Egypt when Joseph was there, and have fitted their fingers into the finger-prints left by the potter. They have passed from one to another a scarab necklace containing an especially fine scarab of Thotmes III. They have admired a little Roman lamp burning in their classroom, and have dramatized scenes from the life of Assyria, Egypt, and Greece. The best evidence that the feelings had been deeply stirred was the remark of a young girl to a lecturer on Egypt at the Museum. As she shook hands to express her thanks she said, "This is the hand that has touched the head of Aknahton."

The Chair.—"This very delightful and exceedingly interesting symposium arranged by Miss Slocum is now open for discussion."

Miss Slocum.—"May I call attention to the order in which these papers have been presented?"

"Miss Griffin describes the teaching of the history of civilization through the children's museum, and as the course develops, carries the children on to the museum of fine arts.

"Miss Sawtelle and Mrs. Scales bring out the teaching of the history of civilization through the story hours of art museums.

"Mrs. Vaughan takes up the study with the older pupils, especially those of the high school.

"Miss Clark carries on her work with college graduates and with those who are preparing to be teachers.

"Thus our cycle of papers, which began with the youngest children, extends on through the school to the college graduate and returns to the school again."

Dr. Walter Hough (United States National Museum).—"What is being done for the children now-a-days fills me with great envy. This splendid effort is sure to make the world better.

"Fifteen or sixteen years ago the National Museum undertook to make exhibits illustrating the history of inventions. These have attracted the greatest attention. We had a series of these exhibits at San Francisco last year and I was surprised, but I am not surprised now, to see the alertness of the school board in preparing lists of things to see at the Exposition. They included in a prominent position 'See the Smithsonian Exhibition and especially the history of invention.' I believe all the school children in San Francisco saw these exhibits of fire-making, of spindle and shuttle, of the development of the stone axe, etc. I had the pleasure of telling the stories of these exhibits to students from colleges and universities, and down to the little kindergartners."

Mr. Benj. Ives Gilman (Museum of Fine Arts, Boston).—"Two years ago at our meeting in Chicago I gave a simple definition of museums, which seemed to arouse some amusement. I said it often seemed to me that a museum of art or history was a place where things out of date were gathered in order to become more so. (*Laughter.*) If this is true it makes evident the clear and direct connection between the teaching of history and museums. The teaching of history tells us about the very things that are in museums, and it seems singular that we have not taken advantage of the opportunity museums afford for illustrating history. The possibilities of vivifying the studies of man and his history offered by our museums are simply tremendous.

"I would like to ask Miss Clark to describe a little more fully the way in which she uses museum collections to bring out what America owes to the past."

Miss Clark.—"Our problem is that of teaching teachers. This year we have had over one hundred college and normal school graduates who are going into the schools of Boston next fall to teach history.

My appreciation of what Mr. Gilman has just said is intense, because the interest of my work lies in the extent to which I can prove to these teachers that the art museum is indispensable in the teaching of history. The question is not how much enjoyment they derive from their own visits to the museum, but what they are going to do when they take their classes to the museum. Perhaps the simplest illustration of the way we have shown that the art museum is indispensable is this: After we had studied Greek life as shown in the art museum, we came to realize very suddenly how much more we really felt about Greek life than we did about Canadian life or Brazilian life. We have learned about Greece, as well as about Canada and Brazil, through our histories and geographies, but we must give the credit absolutely to the art museum for making Greece real to us.

"In training our young teachers, who are to be citizens as well as teachers, we feel that we must give them a very broad view of the great human family upon the face of the earth as it is today; that they must be something more than American citizens; that they must be world citizens. Not only must they be able to give credit to the accomplishments of the nations in their own countries, but if they are going to be economically successful they must learn to make use of the very rich gifts within the people who have come to claim this country as their own. For example, after having studied Egypt under peculiarly favorable circumstances in the art museum this year, I felt that I had carried down into the heart of Egypt these young Americans who are only interested in things that are real and active. One student said: 'How wonderful it is that Egypt teaches us about its life through its great concern about death! If Egypt had not had a great concern about what would happen to its people after death we would know almost nothing about Egypt today.' That gave me a very wonderful chance, because it is the passion of immortality that is crystallized in the art of Egypt. The whole race was living for the assurance of immortality. Very easily this idea led up to the conclusion: 'For what ideal are we striving?' The Greeks, on the contrary, strove for a well balanced and beautiful life. They cared nothing for immortality and their ideal was crystallized in their wonderful art. Again the question came: 'How are we different from the Greeks? Do we care for immortality as the Egyptians did? Are we passionately devoting our lives to a beautiful and well balanced life in this existence?' And finally the whole course has worked itself out in this result: 'What are the American

ideals? How do they compare and contrast with the ideals of the nations that have built the foundation?’

“I think I need say no more to convince you. I am sure that it is only in the museums that we can find the ideals of the ancients perpetuated.” (*Applause.*)

Mr. Harold H. Brown (John Herron Art Institute).—“I think the instruction given by museums could be bettered if there were more maps connected with the exhibits, and many more chronological charts of small size. After a good many years of painful effort I think I may say I have a fairly clear mental map of the countries of the world, so that when Greece is mentioned I can in imagination put my finger on the point where Greece is, but if you ask me where some particular city in Greece is I begin to wobble a little bit, and if I, who have devoted a good many years to this problem, begin to wobble, I know perfectly well that public school children not only wobble but don’t see anything at all.

“In the same way, when they show me an exhibit illustrating steps in development from the stone-age axe to the completed polished axe of the American manufacturer, I immediately wonder in what historical epochs one stage or another was developed. In a little textile exhibit at Hull House in Chicago some years ago, I saw a chart illustrating the development of spinning. A straight line, reaching from the early civilization of Greece to a point somewhere in the eighteenth century, showed that there had been absolutely no change in the methods of spinning in all that time. Then the line rose suddenly at the time of the invention of spinning machines and of textile processes. I have never forgotten that long unchanging line with its sudden rise in modern times.

“I make this appeal to emphasize the value of small maps indicating in vivid colors the place with which the exhibit is connected and small charts illustrating chronological development graphically.” (*Applause.*)

Mrs. Emily G. Gibson of the Cleveland Museum of Art reported a very successful use of such maps as were advocated by Mr. Brown.

In the absence of the author, the following paper by Mr. S. C. Simms, curator of the N. W. Harris Public School Extension, Field Museum of Natural History, Chicago, was read by the Assistant Secretary:

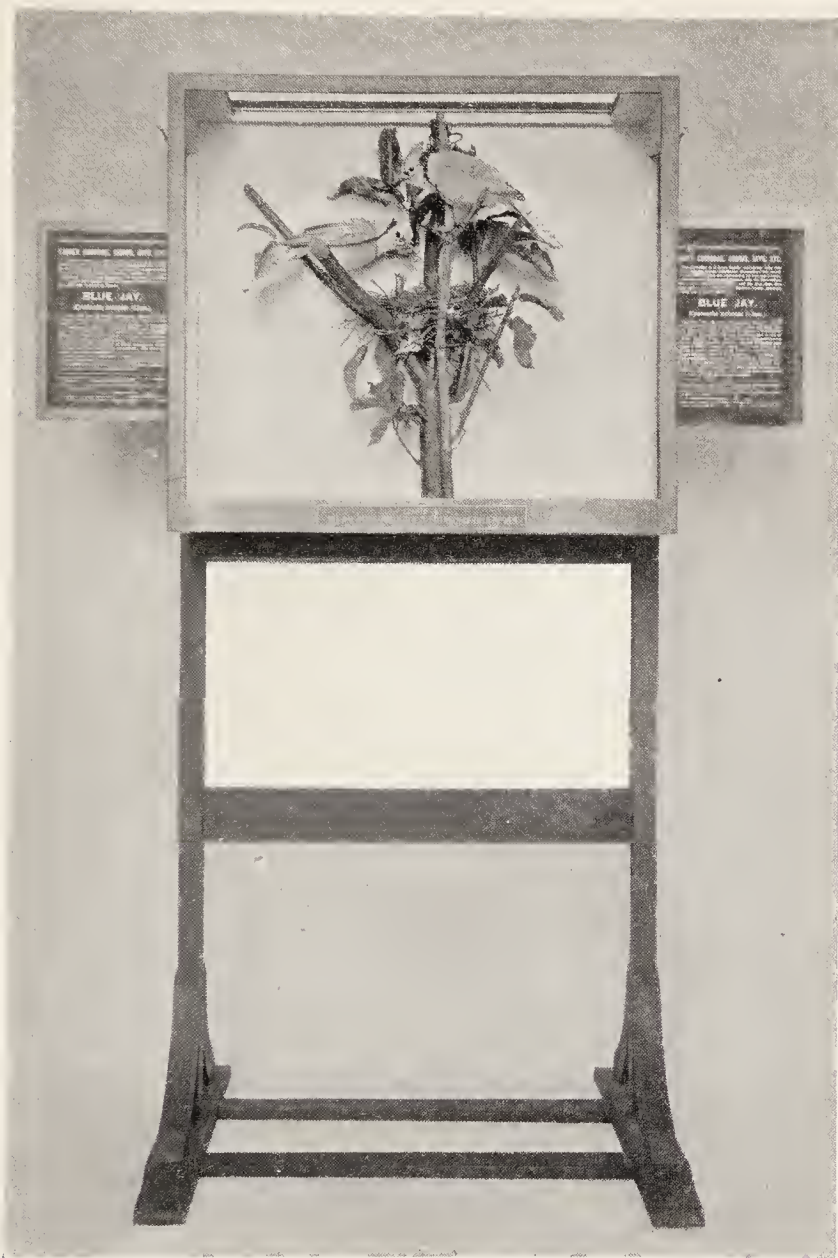
THE DEVELOPMENT OF THE N. W. HARRIS PUBLIC SCHOOL EXTENSION OF FIELD MUSEUM OF NATURAL HISTORY

Field Museum of Natural History has tried out its plan of cooperation with the public schools of Chicago, and the experiment has already indicated that the scheme or plan of The N. W. Harris Public School Extension of Field Museum has become a popular and valuable factor of the public school curriculum.

Though Dr. Frederick J. V. Skiff, director of Field Museum, in an address on "The Uses of Educational Museums," delivered before the forty-fourth annual convention of the National Educational Association at Asbury Park in 1905, strongly advocated the diffusion of knowledge through the medium of traveling museums, it was not until nearly ten years afterwards that the generosity of Mr. N. W. Harris, of Chicago, made it possible for Field Museum to inaugurate its present plan of extending the museum to the public schools of Chicago.

When Mr. Harris learned that neither Field Museum's collection nor its lecturers seemed to attract the attention of the public school children to the extent that the trustees believed was to have been anticipated, notwithstanding all school children were admitted free on all days, he offered to cooperate with the museum in extending the institution into the classrooms of certain grades of the public schools. Mr. Harris' offer resulted in an endowment by him of \$250,000. The gift of Mr. Harris is regarded by President Stanley Field, of Field Museum, as only second in importance to the original gift which led to the foundation of the museum. Even with this gift, the project was not a matter of a day, and it was not until after fifteen months of continuous work, in which sculptors, taxidermists, photographers, and craftsmen had cooperated with the scientific staff, that the museum was ready to serve the schools.

It was after very careful consideration and many experiments as to size, style, and character of exhibition case to be used that the present type was adopted. It seems to have met all the requirements demanded of it. Each case is 24 inches long and 21 inches high. The depths of the cases vary, being 10 inches, 7 inches, and 4 inches. The ends and tops of the cases of 7 and 4 inch depths are of mahogany, and the backs and bottoms of all cases are of veneered poplar.



TYPE OF CASE ON RACK. N. W. HARRIS PUBLIC SCHOOL EXTENSION
OF FIELD MUSEUM

Each case has two handles for carrying by pupils from one room to another, and has also two metal hangers for hooks.

It has been found that the type of case having a depth of ten inches accommodates in a life-like position so large a subject as a mounted specimen of the great horned owl with section of tree containing nest with eggs and young. Cases of this depth are the only ones provided with top and end lights, which help to remove the mere box-like appearance, and permit observation of the encased subject from many viewpoints. After the installation of a hundred cases of this depth with bird and mammal subjects and a wide range of accessory work, I am convinced of the many possibilities that this type of case offers for a truthful and attractive portrayal of mammal and bird life, together with reproductions of foliage, plants, rocks, sections of grounds, etc.

The type of case having a depth of seven inches has been used almost exclusively so far for entomological subjects, being well adapted for displaying moths and butterflies on reproduced foliage representing food plants, and for the installation below the food plant of the various stages in the metamorphosis of the moth or butterfly. This type of case is also well suited for an attractive treatment of a wide range of fishes.

The possibilities to which the cases of the depth of four inches may be put for materials of economic character, have been demonstrated by the use of more than fifty of them for the installation of specimens of various raw and finished products and of many intervening steps of progress.

When the first few cases were sent to the schools, an unattached framed descriptive label was sent with each case, or perhaps I should say was to have been sent, for in one or two instances the labels were forgotten by the messenger delivering the cases. Forgetting the label necessitated the return of the messenger to the museum, and another trip to the school. To prevent a repetition of this occurrence the present method of having two framed labels form structural parts of each case was adopted. These framed labels are so arranged at the right and left sides as to permit them to be pushed from view behind the case when being transported to schools, and to be pulled out in full view of the teacher and pupils when case is displayed in classroom. In addition to the prevention of forgetting labels, additional space for the continuation of the information from one label to another is gained, likewise the advantages of having duplicated

labels which permit the study of a case by a larger number of pupils than if but one label accompanied it. A frame may also be used for a photograph, drawing, or map.

Black-painted thin wooden tablets, each having a space of three by five inches for the installation of solid economic specimens are being constantly used with great satisfaction. The lower portion of these tablets is provided with a grooved block for specimen or individual labels five inches long by one inch wide. At times, but not frequently, a specimen is too large for the standard specimen holder. When this does occur a special tablet of the size of two or even three of the standard tablets is made. By doing this the spaces showing on the back of the case between the tablets are uniform.

For displaying powders, cereals, and specimens so small as not to lend themselves to safe installation upon tablets, a box-like container of black-painted thin wood is used. This container has the same width and height as the tablet specimen holder and a containing depth of one-half inch. It has a face of thin clear glass, and beneath, like the tablet, it has a grooved block for a label. To fill the container, the narrow one-half inch top or lid is removed by unscrewing from the back. After container is filled, the lid is tightly screwed in its place. This method of showing small particles and powdered substances in an upright position, with a flat viewing space of five by three inches, is thought to be superior to one using small tubes and bottles, which generally magnify or distort their contents and restrict the examination of the contents to a much narrower space than that of a flat-faced container having a capacity equal to the tube or bottle.

By adopting specimen tablets and flat-faced containers, each five by three inches in surface dimensions, an exhibition case having a width of 24 inches and a height of 21 inches will easily accommodate sixteen specimens without giving the appearance of being crowded.

After arranging and securing the specimens to the tablets and in the containers, they are placed in the order desired on the previously removed back of the case, and are securely fastened to the same by means of screws, the heads of which are hidden from view when the specimen labels are placed in their grooved holders beneath the specimens.

In support of the claim of the secureness of the installation of many varied specimens by means of tablets and containers, I offer the evidence of several cases so installed having been transported by

freight from Chicago to San Francisco and return. In not a single instance was it necessary to repair any damage or to reinstall any specimen.

In many of the cases in which birds and mammals are shown, an enlarged colored photograph of the habitat or of a characteristic environment of the specimen, forms a background which greatly adds to the realism of the taxidermy and the artificial accessories, and reduces the need and use of much of the latter. This is specially so where accessories are employed to represent a section of ground, or of water, or both.

To facilitate the distribution and the recording of cases, an initial and a number are stenciled on either end near the top of each case. A case containing anthropological material bears the initial A, botanical material B, geological material G, and zoological material Z. Cases are numbered in the order of completion, except where the subject is reproduced, as is often the case; then all cases of a like subject installed subsequent to the original case bear the number assigned to that case. As the cases are placed in the delivery car so that either end of them is exposed to the view of the messenger, this system of initialing and numbering insures prompt identification of cases to be delivered to schools which have been previously designated on receipt cards to be presented to the teacher by the messenger.

The room at the museum which is devoted to the delivery of cases to, and the receiving of them from schools is divided into four parts. Each part is furnished with racks for hanging the cases. Upon one group of racks cases containing botanical subjects are hung, upon another group cases of geological material, and so on. This grouping saves time and reduces mistakes when loading the car with cases for delivery.

The safe and economical transportation of cases to and from schools was a subject to which considerable thought and investigation was given. The consideration given the subject resulted in having a motor-car body constructed after carefully made plans. The body of the car is fitted with four shelves, each having a depth equal to the length of a case, and the spaces between the shelves equal to the height of a case. The shelves are fitted with grooves for interchangeable partitions covered with thick felt, which prevent injury to the cases and allow compact and safe loading. About fifty cases can be well taken care of at one time. Both room and accommodations are provided in the car for a messenger to clean the glass of cases or to

refasten any loosened specimen, thus avoiding the necessity of returning to the museum for these purposes. A simple frame, 27 inches long by 23 inches wide, of felt-covered wood, capable of holding four cases at one time, is used in carrying them from the delivery car to the classrooms. A waterproof hood is used to protect the cases from snow and rain while they are being carried from the delivery car to the school building.

Owing to a ruling of the board of education which forbids the marring of classroom walls with nails or screws, it was necessary to adopt a standard or rack (as shown in the illustration) for displaying the cases in the classrooms. Upon each rack there is fastened a placard setting forth the rules governing care of loan collections, directions to reach Field Museum, and regulations covering the free admissions of school children and teachers. These standards are supplied by the board of education.

After a very careful examination of an exhibit of several of the types of cases, Dr. Maria Montessori said the following in an unsolicited letter:

I admire very much the way in which nature is interpreted in this exhibit. The units attract the child's attention and do not teach errors. They truly represent nature. Besides, they have the added value of permitting prolonged observation of the many details which in nature could only be seen in passing glimpses and to which it would be hard to attract the child's attention. The knowledge of these facts observed in this way makes the future observation of real nature more interesting to the child.

I consider this collection a most desirable contribution to school work and education generally. I hope that many more of these beautiful exhibits may be made.

As an evidence of the value of the cooperation between The N. W. Harris Public School Extension of Field Museum and the public schools of Chicago, the following letter of recent date from John D. Shoop, superintendent of schools, to Director Frederick J. V. Skiff, of Field Museum, is offered:

I deem it a duty as well as I esteem it a privilege to write you in testimony of the results that, in the past few years, have attended the closer cooperation that has been established between the public schools and the museum.

The bequest made by Mr. N. W. Harris has proved of great value to the schools. The exhibits that have been assembled under the direction of Mr. Simms are valuable factors in intensifying and enlarging the interest of the pupils in the spheres of industry and nature. I am certain that you will be pleased to know that the movement made possible through the benevolence of Mr. Harris is eventuating in so much of interest and profit to our public school system.

President Farrington.—"I would like to call attention to the fact that samples of the cases described by Mr. Simms are on exhibition in the back of the room."

The Chair then invited Miss Viola M. Bell of Teachers College, Columbia University, to present the following paper:

POSSIBILITIES OF COOPERATION BETWEEN MUSEUMS AND SCHOOLS IN TEACHING HOME MAKING

Teachers in general are becoming aware of the educational value of museums and many are finding them almost indispensable adjuncts to class work. The field is rich in possibilities for the school and the museum, for cooperation in the organization of branch museums, and in the preparation of special permanent or traveling exhibits. Teachers of household arts use much illustrative material, for they realize that through this medium students more readily understand and appreciate the development of art, industry, and science. It has been very difficult to obtain desirable material of this sort.

As a definition for household arts, we may take this: "a study of the economic, sanitary, and esthetic aspects of food, clothing, and shelter, as connected with their selection, preparation, and use by the family in the home or by other groups of people."

The suggestions which I offer for exhibits, therefore, will be in partially tabulated form under the three main divisions: food, clothing, and shelter and household management.

I. FOOD

1. Food industries from the raw state to the product finished for market. (a) Growth. (b) Cultivation. (c) Production. (d) Manufacture.

2. Meats. Mounted skeletons of fish, fowl, lamb, veal, beef—familiar as such but gathering more meaning when related to various cuts of meat. Economic and scientific advantages are thus offered to the public and the school.

3. Composition of foods. Upon the composition of foods, we base our principles of cookery and nutrition. For instance, the actual amounts of water, fat, protein, carbohydrate, and mineral matter or ash in a pint of milk might be exhibited. Many other foods would give a vivid impression in the same way. A series of charts showing the percentage composition of food materials is obtainable from the United States Department of Agriculture. The Bethnel Green Museum of London has portrayed the amounts of the constituents of the human body. A similar exhibit would be appreciated in relation to household arts.

4. One-hundred-calorie portions. Since our bodies are maintained by the intake of foods, we may measure their value for this purpose by the heat of their combustion. The unit of heat is known as a calorie. Many ordinary servings of food contain one hundred calories. Models in wax of common foods bring out striking contrasts and interesting comparisons of the amounts necessary to give one hundred calories.

5. Dietaries. From the above we may work out combinations of foods for one meal or for the three meals of a day. The number of calories we require is determined by our occupation, our size, and our age. Suppose we arrange a day's diet for a boy of ten years, 1800 calories:

BREAKFAST	DINNER	SUPPER
Apple	Steak (2 portions)	Macaroni with cheese
Oatmeal	Baked potato	Bread, Butter
Bacon	Asparagus (1/5 portion)	Milk (2 portions)
Bread, Butter	Lemon jelly, Cream	Custard

The above is just a suggestion. Daily rations for a child of two years, for a stenographer, for a day laborer, or for an aged grandfather, may all be depicted. Through an organized popular exhibit the public may be taught how to select food, in other words "how to keep well." The field is new. One telling display of this sort accomplishes more than any number of talks about feeding. Pleasing and proper combinations, variety and choice of foods, and comparative costs of foods and meats find a place here. To stress the need of proper food for growth and development to the stage of maturity, Miss Alice Ravenhill of England recommends the placing of an infant skeleton beside that of an adult for comparison. Carnegie Institute in a clever fashion pictures the results of choice of good and poor food upon the growth of two rats of the same age. One was stunted in growth after four months of the experiment, being only the size of a third rat of normal growth one-fourth its age.

6. Factors in the cost of food. For example, one dollar spent on granulated sugar might be traced through the successive steps, giving the cost at each stage—growth, labor, refining, transportation, storage, demand and supply, retail consumer.

7. Bacteria, yeasts, and molds (enlarged). The exhibit should show types, development and growth, effect upon food in its relation to man, and methods of control.

8. Pure foods. Standards of purity. Adulteration, including types, effect upon food, and effect upon man. Cost of foods. The United States Bureau of Weights and Measures offers valuable material concerning the frauds practised in the use of various food containers.

II. CLOTHING

1. Raw materials for clothing. These may be classified by their origin as animal, vegetable, metal, and artificial production (e.g., artificial silk and celluloid).

2. Growth and development of plant and animal material. For example, cotton—its geographical distribution, varieties, cultivation, and the processes in preparation for spinning.

3. Manufacture of cloth. Felting, weaving, netting, and knitting. The weaving exhibit might include hand, Indian, horizontal, Jacquard, and tapestry looms. Other subjects for illustration would include dyeing, design-printing, and mercerizing.

4. Classification of textiles. This would include damasks, velvets, tapestries, brocades, embroideries, laces, and carpets, with their widths, prices, etc.

5. Judging and testing. Fillings, weighing, imitations, physical properties (effect of heat, acid, and alkali), elasticity, porosity, and strength.

6. Budgets of clothing. These should include a school girl's wardrobe, a business man's wardrobe, a child's wardrobe, a woman's wardrobe, etc.

7. History of costume. One of the greatest aids to the student of clothing is the history of costume. Photographs, paintings, and descriptions are valuable, but we all agree that an authentic model is preferable. The Metropolitan Museum of Art has a collection of thirty dolls, designed and executed by Mrs. Theodora R. Lightfoot, showing all the important changes in dress during the past five hundred years. They are not only authentic in style, but accurate in design of fabric and lace, harmonizing with the small size of the doll. Four dolls represent American periods, while the others are German, French, Italian, and English. The Newark Museum has taken a forward step in the use of dolls dressed in American historic fashion to vitalize history teaching. Museums with a permanent or traveling exhibit of historic costume could afford invaluable opportunities to schools, colleges, and institutions throughout their own and neighboring states.

III. SHELTER AND HOUSEHOLD MANAGEMENT

1. History and development of primitive, ancient, medieval, and modern shelter. The wattled hut, tepee, wigwam, igloo, lodge, tent, cave, sod house, pueblo, cliff dwelling, adobe, bungalow, and country house. In a neighboring park there might be developed the national history of architecture, and the architectural styles and fashions of our country.

2. The building of a house. This is well represented by a so-called educational miniature house, showing the details of elevation, foundation, studding, floors, chimneys, windows, doors, etc., all constructed in such form that they can be taken apart and each phase of construction studied. Housing exhibitions are regular outdoor affairs in England.

3. Heating. Materials, with their sources, fuel values, costs, and their advantages and disadvantages. Development of stoves and heating appliances.

4. Water supply. Sources of water supply in local community. Sources of contamination, and methods of purification. Model of filter plant. Enlarged view of types of bacteria present in water. Excellent exhibit of this item in American Museum of Natural History in New York.

5. Equipment. (a) Depict the furnishings of various rooms from an artistic and economic standpoint, e.g., a model kitchen that looks natural and is not too expensive to be considered by ordinary people. "How to furnish a flat for two hundred dollars" is a practical problem to many young married couples. The Toledo Museum of Art has two rooms furnished at about the same cost, one beautiful, one ugly. The director offers advice to all in regard to getting the most beauty and utility in home furnishing and decoration. It is gratifying to see this work

made so practical. (b) From another viewpoint, a collection showing the development of cooking utensils from the primitive bowl, plate, and spoon.

6. Household pests. More general diffusion of knowledge concerning the control of household pests and the prevention of their ravages is highly desirable. Classes of pests: Annoying but not necessarily destructive forms, disease carriers and transmitters, essentially destructive forms. Remedial methods: fumigation, poisons, sprays, dips, etc.

7. Hygiene and sanitation.

In conclusion I wish to call attention to some of the many contributions already made by museums, which may be correlated with household arts. The Teachers' Museum of Boston shows modern methods of raising, preparing, and transporting food. The Educational Museum in St. Louis has portrayed the production of food-stuffs, industrial products in various stages, and materials for clothing. All of these are of much assistance. The museums in Newark and in Milwaukee, with their lectures and exhibits for schools; the Children's Museum in Brooklyn, with its historical exhibits; and the Field Museum in Chicago, with its lantern slides of tuberculosis, are all of interest and great value. The Charleston Museum, in South Carolina, The Philadelphia Museums, and the Educational Museum in St. Louis are to be heartily commended for their remarkably successful work with traveling exhibits.

Various agencies which may be called upon are: the Department of Surveys and Exhibits, Russell Sage Foundation, New York City; The National Child Welfare Exhibition Committee; the Bureau of Commercial Economics, offering hundreds of industrial films free; the National Society for the Prevention of Tuberculosis; and, last but not least, The United States Department of Agriculture.

May you make it possible for the teacher of household arts, whether in city or isolated community, to call upon the museums for instructive and valuable materials in the visualization of world home making.

Mrs. Agnes L. Vaughan (Metropolitan Museum of Art).—"I have not met the students from Teachers College in connection with this course. Obviously the Metropolitan Museum of Art has no means of teaching anything about food calorie value, but we have done a great deal of work with the high schools in connection with costumes and home decoration. For pupils who come to study color schemes we use the museum collections and examples of textiles arranged

according to periods for class studies in the decorative arts. We have had some rather amazing developments from our talks to classes on costumes. In one instance a group of students, including several Italians, arranged to have the Italian club of their high school come to the museum to study the Italian paintings with a view to making costumes for tableaux. Their interest became so great that they copied the pictures in their tableaux. I would like you to note the connection a museum of art can have with such a course of study."

At this point President Farrington resumed the chair and declared a recess of five minutes. When the Association reassembled, President Farrington spoke as follows:

President Farrington.—"When the term of the President was extended to two years it was provided that the retiring President should become an ex-officio member of the Council. It was left uncertain whether this meant that he should take the place of one of the two Councilors elected in that year, or whether he should be an additional member. Since the term of the President is two years it is thought better that the retiring President should take the place of one of the members of the Council elected in that year. It also seems desirable that the Vice-president should serve two years in order that his term may coincide with that of the President.

"For these reasons the Council proposes the following amendment to Article IV of the Constitution:

The officers of the Association shall be a President, a Vice-president, a Secretary and a Treasurer, and six other persons designated as Councilors, and these ten shall constitute the Council.

The President and the Vice-president shall each serve two years, and during the succeeding two years shall be ineligible for re-election to the same office. The Councilors shall each serve three years, and for one year thereafter shall be ineligible for re-election to the same office. Two Councilors shall retire annually and two Councilors shall be elected annually, except that, in the year of a presidential election, the retiring president shall become a Councilor and the Association shall elect one other Councilor.

Upon recommendation of the Council the Association may elect an Honorary President to hold office for the term of two years. An Assistant Secretary may also be elected.

This amendment was unanimously adopted. The Association then proceeded to the election of officers with the following result:

President:

Henry R. Howland, Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

Vice-president:

Newton H. Carpenter, Director pro tem, Art Institute of Chicago, Chicago, Ill.

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, S. C.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

The retiring President, Dr. Oliver C. Farrington, became a member of the Council as required by the Constitution and the Association elected to the Council Mr. Harold L. Madison, curator of the Park Museum, Providence.

The Association voted that nominations for office may be made by nominating ballot at the option of the Association.

The Association then adjourned for luncheon. The afternoon was devoted to an inspection of the Corcoran Gallery of Art and to a special session on "Instruction Service in Museums."

SESSION OF TUESDAY, MAY 16

Afternoon

The afternoon session was in the nature of a sectional meeting for the benefit of those interested in the problems of instruction service in museums. It was the outcome of a gathering of museum instructors and other persons interested in work of this character at the Metropolitan Museum of Art in New York in May, 1915. This gathering was so successful that steps were taken to determine the advisability of forming a permanent organization. It was ultimately decided, however, to unite with the American Association of Museums.

The meeting was called to order by Secretary Paul M. Rea, acting on behalf of the President of the Association, who extended a cordial welcome and expressed the pleasure of the Association in setting apart this special session. He requested Mr. Henry W. Kent, secretary of the Metropolitan Museum of Art, to preside in recognition of the fact that Mr. Kent had been largely instrumental in the suc-

cessful development of the work to be reported at this session. Mr. Kent then took the chair.

The program for the afternoon consisted in a presentation of the results of a questionnaire which had been circulated for the purpose of obtaining more accurate information regarding the instruction given in museums. The subject was introduced by Mrs. Agnes L. Vaughan, instructor in the Metropolitan Museum of Art, who explained the purpose of the questionnaire and gave a summary of the replies received to the several questions asked. Mrs. Vaughan's introduction was followed by a number of brief papers describing the work of particular museums more fully.

Mrs. Jeannette M. Diven, director of the Arnot Art Gallery, Elmira, N. Y., described the annual exhibition of children's drawings at the Arnot Art Gallery.

Dr. G. Clyde Fisher, assistant curator of the department of public education in the American Museum of Natural History in New York, described the methods of instruction in that museum.

Miss Alice W. Wilcox, director of the Fairbanks Museum of Natural Science in St. Johnsbury, Vermont, discussed the relations of that museum with the children of the public schools, and especially the methods of testing the knowledge of the students by means of required reading and reviews.

Mr. William L. Fisher, assistant curator in the Philadelphia Museums, discussed the system of school credits arranged between the museums and the schools.

Miss Agnes L. Pollard, curator in the Museum of the Staten Island Association of Arts and Sciences, discussed the subject of experimental examinations in connection with the work of her museum.

The program was concluded with two papers, one by Mrs. Laura W. L. Scales, museum instructor in the Museum of Fine Arts, Boston, and one by Mr. William L. Fisher of the Philadelphia Museums. The subject of both papers was "Connections with Colleges."

These papers gave a very interesting and complete picture of the present state of development of museum experiments in formal class instruction, and were the subject of extended discussion. The general sentiment indicated that this phase of museum work is only beginning to receive the attention it merits, and that its most promising feature is to be found in the desire of those engaged in museum instruction to fit their work in the most helpful way to that of the public schools.

SESSION OF TUESDAY, MAY 16

Evening

The evening session was called to order by President Farrington, who requested Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, to preside. Mr. Gilman then took the chair.

Mr. Herbert E. Sargent, director of the Kent Scientific Museum, Grand Rapids, presented a paper in which he described his successful use of vacant store windows for the display of exhibits advertising the museum.

Miss Margaret T. Jackson, assistant director of the Minneapolis Institute of Arts then presented the following paper:

ADVERTISING AN ART MUSEUM

There has never been a time in the history of the world when advertising was so necessary to the success of every enterprise as now. The public, in fact, has become so used to brilliant color and flaming headlines that demand for this sort of thing has been created. The best of it is that advertising is getting more and more artistic, and popular taste is being educated day by day. A passenger in a street car looked at the cover of a new magazine he had evidently just bought, and then, before opening its pages, turned it over to look at the advertisement on the back. The great advertisers have learned that art pays, but, what is more extraordinary, advertising pays, no matter how vast the sums expended. One of the largest and best attended churches in Minneapolis advertises regularly every Saturday in the local papers. It not only runs the usual small announcement of the Sunday services, but takes six inches of display space in three newspapers, which costs eighteen dollars per week. That it pays is evident, because the attendance, especially at the afternoon and evening services, increases every time the advertisement appears and drops off every time the advertisement is left out. And, not only does the size of the congregation increase, but, incidentally, the collection is enough larger to more than pay for the cost of the advertising. It is the aim of all museums today to keep up with the times, and if it has become the practice for even churches to advertise for congregations, certainly it is time for our museums to do more in this line.

The time has gone by when the trustees of a museum are satis-

fied to have their institution merely a storehouse of dead art. It must be a living and vital force in the life of the community, and in order that this shall be so, something must be done to bring the people to the building.

Educational work with the school children is of course the best method of advertising that could be devised, for where the children know and understand the collections the use of the museum by the "grown ups" is bound to follow. So strongly has this been felt that museum instruction has now become a distinct branch of museum work.

But there are many other forms of advertising that have received the sanction of usage in our best-known museums today. The commonest of these is, of course, the use of display cards in or upon the street cars of the city. In some cities these are only used in the cars running directly to the art museum. In other cities they advertise the collections or temporary exhibitions and are to be found in all the cars. In certain rare instances where the president of the street car company happens to take a special interest, these cards are carried free. In other places the museum is obliged to pay for them as any other enterprise would have to do. But the art of advertising does not stop with the decision to spend some money on display cards. The form in which they are printed is most important, and the museum must realize that all advertising is governed by psychological laws and that a design for street-car cards that would be very appropriate and delightful if it could be examined at close range is often totally illegible or unattractive when seen from the sidewalk or even from the length of the street car. Brilliant color can be artistic and it has carrying power. The legend must be short and to the point.

Some museums have discovered that they can reach the newcomer in their city by means of small advertisements placed in the railroad stations and hotels, and although both hotels and railroad stations are loath to break their rules against the display of such cards, they can sometimes be induced to place a small and well-designed sign of this sort where it will do a great deal of good. In a city where there are several museums, cooperation between them often secures opportunities of this kind which would not otherwise be available. Almost every city now has an active organization interested especially in the development of its resources; sometimes a chamber of commerce sometimes a private association or club like the Minneapolis Civic

and Commerce Association. Through this agency cards can be distributed, giving the hours that the museum is open, price of admission, and a summary of the collections, as well as indicating the main lines of approach. Free publicity is given by the prominent newspapers, either in their news or art columns, to announcements of lectures, special exhibitions, new accessions, or items of general news. Some museums regard this as of such importance that they have a special publicity manager on their staff. Others attempt to handle the giving out of news through the separate departments.

Almost all of our larger museums spend a certain amount of money in advertising of one kind or another. The most scholarly form which this takes is, of course, the museum bulletin, but this organ is read by a very small number of the people to whom it is sent. Unfortunately, few bulletins are edited in such a way as to arouse one's interest. The ordinary reader does not care for the scientific article published in the usual museum bulletin, and, consequently, glances at the pictures and at the list of accessions and files the little magazine either on the shelf or in a waste basket. We are trying more and more to make the collections in our museums tell their story and interest the public, and very soon we shall find that the bulletins also will be written with this special object in view and they will no longer be thrown away. In this respect the museum is in the same position as the commercial house publishing its "house organ," and some of the methods adopted in the clever little magazines produced by some of these firms might well serve to assist the museum to perform its mission of education through its bulletin. Most museums allow a very small budget for publications, and an artistic "house organ" is expensive but worth while. Many of the museums and art societies are sending out post card notices to their members, giving a list of exhibitions and lectures, and these may be made very valuable; but a cleverly worded and well-designed paid advertisement in the newspapers would be still more efficacious.

Certain of our museums are undertaking advertising of a different form by conducting campaigns for civic betterment with headquarters at the museum. This is a perfectly legitimate form of advertising and brings a museum into close relation with the people of the city. Many museum officials who are imbued with traditions of scholarly aloofness look askance at such movements as city-beautiful campaigns and bird campaigns. These may not be directly connected with an art museum, but they are directly connected with the interests

of the city, and what is more logical than that the museum should be the center from which radiates civic improvement? We are living in a different age from that of our fathers, and it is only right that the museum should make use of the different agencies open to us in this generation.

And speaking of modern agencies for advertising, the Anti-Tuberculosis League is making use of the motion picture houses for purposes of publicity, and cards reading "Swat the Fly" are run in many of these theaters. Why should it not be possible for the chamber of commerce or the art museum to acquire a series of films representing the advantages of life in the city in which the museum is located, and including a visit to the art museum? These could be loaned to the different motion picture houses both in the city and in the surrounding country. They should be accompanied, of course, by appropriate signs. In this connection, a rough table showing the percentage of art museum visitors to the population in seven cities may be of interest. The population is figured in all cases from the census of 1910, the attendance figures are in some cases for 1915, and in some cases for 1914, according to the data available.

Toledo, 68%	St. Louis, 24%
Chicago, 40%	Minneapolis, 19%
Boston, 32%	Indianapolis, 15%
New York, 14%	

It is interesting to note in this connection that Toledo does more advertising than any other of these museums, and the result is obvious. There is hardly a street urchin in the city who does not know and love the museum. Whatever our prejudices in favor of the dignity of a museum, we are all trying to bring cultural influences into the lives of the people, and in order to do this we must have some way of increasing our attendance. Advertising is the modern medium, and if we are to be up to date we must extend our advertising.

Several members stated that they had experienced difficulty in having museum cards and advertising notices displayed in hotels and railroad stations. Mr. Harold H. Brown stated that this subject had received special consideration at the John Herron Art Institute in Indianapolis and, although their cards were very carefully designed, the Chamber of Commerce declined to approve their being shown in

any of the shop windows or hotels, this action being due to a general sentiment adverse to this practice in other lines of work.

Prof. Homer R. Dill reported that he had observed in the museum of the State University of Iowa a large number of patients from a neighboring hospital. Upon inquiry he found that they were in the habit of coming to the museum while waiting for dispensary appointments. The superintendent of the hospital finally posted a notice calling the attention of patients to the University Museum, thus helping materially to advertise the institution.

Dr. A. R. Crook, curator of the Illinois State Museum, reported that he had been able to have framed notices of the museum displayed in the railroad stations, the inter-urban cars, and the hotels. During Fair Week he had been able to use large banners carrying the words "State Museum Free" and these had increased the attendance at the museum very materially.

Mr. H. W. Kent described the cooperative poster advertising all the museums of New York City. These were very carefully and attractively prepared but, although supported by the influence of many prominent men, they were placed with the greatest difficulty and have since been covered to a considerable extent with other advertisements. Mr. Kent suggested that the museums were perhaps to blame for not changing the style of the posters from time to time.

Mr. Newton H. Carpenter, director pro tem of the Art Institute of Chicago, then presented the following paper:

HOW THE ART INSTITUTE OF CHICAGO HAS INCREASED ITS USEFULNESS

The love of art is inherent in everyone, no matter of what nationality or creed. The language of art is common to all people. One does not have to speak French in order to understand the work of a French artist. Art is the universal language.

Until comparatively recent years, the art treasures of this country were owned by the wealthy and were enjoyed by only a favored few. Then came museums with their object of giving the advantages of art to the people. It is gratifying to note the growing inclination of those possessed of valuable art treasures and art collections to present them to museums, where they can be enjoyed by the mass of the people. Practically all the collections of the Art Institute of Chicago have come to it by gift from citizens who believe that the

city that helped them make their money is the city to which it should be returned through some factor for its betterment, advancement, and beauty. Some have given collections, and later endowed them; others have given endowments from the income of which museum purchases can be made; while others have donated single objects of art. The installation of paintings, sculpture, and other art objects in museums is so much better than in private homes that our donors often remark that they had never really seen their collections until their installation in the Art Institute.

The first duty of a museum is to obtain objects of art and exhibit them to advantage. Its second duty is to do all it can to induce and encourage the people to visit the museum frequently and to help them derive the maximum benefit from it. The attendance in the Art Institute during 1915 reached a total of 879,384, and if the students in the school were counted once a day for each day of their attendance, it would add 139,841, making a grand total of 1,019,225. The museum second in attendance to the Art Institute is the Metropolitan Museum of Art in New York, whose attendance last year was 707,690. If our attendance can be attributed to the methods used in the management of the museum, an explanation of these methods may be of interest to those administering other museums.

A museum should be centrally located, where it is easily accessible to the public, and should be open at such hours as will best suit their convenience. Clubs, and the public in general, should be made to feel that they are always welcome.

The museum should provide special exhibitions, opened by receptions. Music and refreshments are valuable additions to these social functions, since they help create a pleasant atmosphere. A lecture hall is almost a necessity. Interesting lectures should be given on subjects allied with or illustrated by the collections in the museum.

Lectures, both educational and entertaining, are welcomed by the public and have a tendency to encourage the appreciation of art in the community. During the winter season several lectures are given weekly in Fullerton Hall. They are practically all on the various phases of art. Series of lectures are given on the different schools of art, the history of painting and sculpture, and similar subjects. The lectures are for members and our art students, and are always well attended.

Endowments, the income of which can be used for courses of lectures, are very desirable. At the Art Institute we have such an

endowment fund that gives us our annual Scammon lectures. Each year they present a comprehensive study of one subject, such as architecture, textiles, prints, etc. The material used in these lectures is later put into book form and published. The Scammon lecturers are men chosen because of their thorough knowledge of the specific subject. The theme is treated in a scholarly way, and yet it is a democratic audience that responds.

There is no more potent influence in the life of a city than that exerted by its various organizations or clubs. We have found their influence of great benefit.

At the Art Institute we have a club room that will seat about one hundred and seventy-five, a small committee room, and Fullerton Hall, the capacity of which is about five hundred. In these rather limited quarters about fifty clubs hold all their regular meetings. In connection with the Art Institute there is a dining room large enough to provide lunches or refreshments for these clubs, when desired.

The club rooms are of sufficient size for each club to enjoy its various club functions, while the galleries give them an excellent opportunity to exhibit their work. For the use of the club rooms, the Art Institute charges only enough to cover the expense of opening them.

A general idea of these clubs and the way in which they are cooperating with the Art Institute for the increase of its usefulness to the public will be of interest.

The Friends of American Art is a unique organization of about one hundred and sixty members, which was incorporated for the special purpose of buying works of art by American artists, a purpose which gives this association national importance. It has raised about thirty thousand dollars a year for the past five years, with which it has purchased and presented to the Art Institute sixty-seven paintings, five pieces of sculpture, and about forty prints. The successful work of the Friends of American Art has attracted much attention and several other cities have adopted its plan for similar organizations.

The Antiquarian Society of the Art Institute of Chicago is an organization of ladies, with a present membership of about four hundred and fifty, whose object is to purchase and present to our museum antiquities pertaining to the decorative arts. Since 1891 this organization has contributed an exceptionally valuable col-

lection of laces, textiles, furniture, etc., which has been installed in permanent galleries in the museum.

The Commission for the Encouragement of Local Art, established by the City of Chicago in 1914, was the first of its kind in America, although other cities have since followed the example of our city. The Commission holds all its meetings at the Art Institute. The city makes it an annual appropriation which is sufficient to purchase twenty or twenty-five paintings by artists of Chicago, for exhibition in schools and other public buildings in our city. Most of these purchases are made from the Chicago Artists' Exhibition.

The Chicago Society of Artists has a membership of about one hundred and fifty of our leading artists. They meet one evening a month at the Art Institute and help our museum materially by giving one of its best annual exhibitions, that of works by artists of Chicago and vicinity. The society has proved itself an exceptionally live organization and a big factor in the encouragement of local artists.

There are three architectural clubs meeting at the Art Institute: The Chicago Architectural Club, the Illinois Society of Architects, and the Illinois Chapter of the American Institute of Architects. These three clubs together with the Art Institute unite in giving the annual architectural exhibition, which now embraces all arts allied with architecture and has come to be a very interesting exhibition.

The other organizations giving annual exhibitions at our museum are: The Chicago Society of Etchers, The Art Students' League, The Chicago and the Atlan Ceramic Art associations, The Chicago Society of Miniature Painters, and The Western Society of Sculptors. Some of the members of these clubs contribute to the Annual Exhibition of the Applied Arts, although no one club gives this exhibition.

Every exhibition is opened by a reception, the club providing the reception committee. These receptions are open to all members of our museum as well as to the guests invited by members of the club. The Art Institute bears all expenses in connection with both exhibition and reception.

Aside from the exhibitions under the management of clubs, many "one-man exhibits" are given in the galleries, and occasional exhibitions are held under the management of other outside organizations, such as the Public School Art Society, local photographers' clubs and water-color societies. The numerous exhibitions cover the whole field of art.

There are a number of other clubs, interested in the fine arts, which meet at the Art Institute, but which do not give exhibitions. Among these we find such names as: Alliance Française, Archaeological Society, Art Students' Fellowship, Artists' Guild, Chicago Library Club, Chicago Principals' Club, Drama League, Friends of Our Native Landscape, Geographic Society, High School Teachers' Association, Public School Art Society, Society of American Musicians, Wild Flower Preservation Society. About thirty other clubs hold occasional meetings in our museum.

The Municipal Art League holds all its meetings at the Art Institute. The art committee of the Municipal Art League is composed of delegates from the art committees of sixty-eight important clubs in the city. A large part of their work is in connection with the Chicago Artists' Exhibition. They arrange each year for a series of one or two receptions a day, held in the galleries during the period of this exhibition. In addition to their other activities, they make an annual purchase of one or more pictures with which they are forming a Municipal Art Gallery.

Music is an excellent means of attracting visitors. During the past six years two orchestral concerts have been given in our lecture hall every Sunday afternoon; and for about three years, Sunday evening opera musicales have been given. The admission fee for these concerts is only ten cents for each afternoon concert and twenty cents for the evening one. The number of people who have attended these entertainments to date has exceeded 177,000. The admission fees have met the entire cost of these entertainments. These concerts undoubtedly have been the means of adding many visitors to the Art Institute. For the past three years our restaurant has been open Sundays from noon until eight o'clock, and several hundred are served every Sunday.

Reproductions of the interesting subjects in the permanent collections, in color or in black and white, of post-card size or larger, are an excellent advertisement for a museum and a legitimate means of profit to it. At the Art Institute they are in great demand, the sales averaging thirty thousand prints a month.

Four years ago classes were organized in the Art Institute for people desiring to study the history of art in its various manifestations, the class instruction to be illustrated by objects in the museum and photographs and slides shown in the classroom. A museum instructor was engaged; as the work increased later, an assistant was

secured; and since then, when required, extra instructors have been employed for special classes. Classes for adults, who comprise most of the regular attendants, meet weekly. A small fee is charged in order to make the work self-supporting and to insure more regular attendance. These classes are not spasmodic, but continue from year to year. Our instructors are often engaged for single museum talks or to conduct visitors through the Art Institute.

Here again our clubs enter into the life of the museum as our instructors assist in a large part of the activities of the art departments of several of these organizations, while many others come for one or more lessons.

The children's department is being handled efficiently: the boys and girls come in grades from the various public schools. During the past six months instruction has been given to an average of five hundred children monthly.

The receipts from tuition fees for the past four years have exceeded five thousand dollars, which have been sufficient to pay for the museum instructors and their assistants and to leave a small balance.

The teachers in the art department of the public schools are cooperating with the Art Institute in encouraging children to visit our museum. They give lectures in the assembly rooms of the public schools, illustrated by lantern slides, on the treasures in the Art Institute and advise the pupils to become familiar with the museum.

The State Museum Act, under which the Art Institute is incorporated, provides that our museum shall be open free three days a week, and that teachers and pupils of the public schools of Chicago shall be admitted free of charge. We also give free admissions to the teachers and pupils of all schools—not organized for pecuniary profit—in our county. Others receiving free tickets are Chicago artists, persons desiring the use of the library, and art instructors with their classes.

Efforts are now being made to extend the usefulness of our museum by advertising the pleasure obtained from the *beautiful*, that is, *art* in general. We believe that through education comes appreciation and love. Talks on art are to be given in the public schools, in the community centers, and in the playgrounds. They will be for both children and adults, although the former will be given the greater attention. Although this will not be done as a direct advertisement for the Art Institute, it cannot help but benefit the museum eventually by an increase in attendance and a higher appreciation of the museum's treasures.

One of the most effective ways to interest citizens in a museum and to identify them with it, is to incorporate them in its membership. This creates a feeling of ownership in the museum and materially helps to provide the necessary funds to maintain and enlarge it.

The Art Institute has two kinds of members: First, governing members who, like members of a church or club, actually own and control its property and affairs. A governing member pays one hundred dollars upon election and annual dues of twenty-five dollars; or upon payment of four hundred dollars he becomes a governing life member and is exempt from all future dues. This form of membership is limited to two hundred. At the present time there are one hundred and fifty-two governing members, fifty-four of whom are governing life members. All governing members are elected by the trustees upon the unanimous recommendation of the executive committee.

The second form of membership includes annual and life members. The annual members pay ten dollars a year, and the life members pay one hundred dollars and are exempt from annual dues. The annual and life members are given tickets which give them, their families, and non-resident visiting friends free admission to the museum, library, lectures, and receptions. The privileges of annual tickets are limited to one year; the life tickets continue during the life of the owner. There is no limit to the number of either the annual or life memberships, nor is this class of members elected.

The annual membership was established in 1883 with two hundred and seventy-three members. The number of annual members has steadily increased until it now exceeds five thousand. The receipts have also increased from \$2730 in the first year to \$47,080 in 1915. The total receipts from annual memberships during the past thirty-three years have amounted to \$633,560.

Life memberships were established in 1897. The number of life members secured each year has grown from thirty-three the first year, to three hundred and two in 1915, the receipts increasing in proportion. The life membership fees have been kept in a separate fund, which is held as a permanent endowment and now exceeds \$208,000. The receipts from annual members and the income from the life membership fund are used for operating expenses.

Any method of securing members that meets with success is the one to follow. Our first members were secured by the personal efforts of the officers and trustees; later, the memberships were obtained by

personal letters signed by the officers of the Art Institute. When this method did not produce the desired results, a paid solicitor was secured, at first on a commission, and later on a salary, this latter method proving the most satisfactory. During the year 1915 our solicitor secured twenty-seven hundred and fifty-four new annual members, who paid \$27,540, and three hundred and two new life members, who paid \$30,200, making a total of \$57,740.

The receipts from members for the year 1915 have amounted to \$88,716, and the total receipts since the memberships were established are \$1,034,194, itemized as follows:

	1915	Total receipts to Dec. 31, 1915
Governing members.....	\$ 400.00	\$ 41,500.00
Governing members, dues.....	2,700.00	112,904.00
Governing life members.....	800.00	22,200.00
Governing life interest.....	911.73	7,831.88
Annual dues.....	47,080.00	633,560.75
Life members.....	30,200.00	178,300.00
Life membership interest.....	6,624.31	37,897.46
	<u>\$88,716.04</u>	<u>\$1,034,194.09</u>

A large membership in a museum makes it possible to place the cost of its maintenance on the ones who are enjoying its privileges.

The trustees of a museum should exercise great care in the selection of their officers and employees in order that all may work in harmony toward serving the visitors to the museum courteously and in the most beneficial way.

It is our aim to make our museum as useful as possible to the public and to place no unnecessary hindrances in the way of its being enjoyed. We have no turnstile to pass through, but people walk in as they would in their own home. Children are not required to be accompanied by parents, but are encouraged to visit the museum alone or in groups. Canes and umbrellas may be carried through the galleries, or, if desired, checked free of charge.

We try to make the Art Institute appeal to all Chicagoans—not as a thing of curiosity only to be shown to out-of-town guests, but as a part of the daily life of the residents, a place for refreshing their aspirations and raising their ideals.

It is through this policy of democracy and service carried out in the many ways of which I have spoken that the Art Institute of Chicago has made its valuable collections useful to the public.

In response to questions Mr. Carpenter stated that the record of attendance was kept by the door man with a hand counter. He also stated that the average membership in the Art Institute is continued about six years. He described a special exhibit of fish in small aquaria, which increased the attendance of visitors in three weeks more than forty-three thousand over the corresponding period of the previous year.

Mr. John Cotton Dana, director of the Newark Museum Association, then presented the following paper:

INCREASING THE USEFULNESS OF MUSEUMS

It is easy for a museum to get objects; it is hard for a museum to get brains. The objects are seen, talked about, wondered at, bring praise to those who give them and prestige to those who choose them for purchase. The brains are not seen, are chiefly in the heads of mere hirelings, produce results slowly, and the results produced are seen only by those with a gift for education or with training and experience in it.

What is true of museum objects—rare, wonder-producing, and pride-evoking objects—is true also of museum buildings. It is easy to get them, much easier than to get museum brains. They are large, monumental, shiny, obtrusive, make impressive photographs, help to give cities plausible reasons for existence, furnish to donors a refined publicity for unselfish expenditures, and endow laborious trustees with a sense of duty done and with the immortality of a bronze inscription.

Probably no more useless public institution was ever devised than that popular ideal, the classical building of a museum of art, filled with rare and costly objects. And it adds to its inutility a certain power for harm. To its community it gives a specious promise of artistic regeneration, and it permits those who visit it to put on certain integuments of culture which, although they do not conceal esthetic nakedness, inhibit the free exercise of both intellect and sensibility.

What I mean is this: Museums, and especially art museums, are social conventions or community fashions. When a city puts on a museum it puts it on in obedience to the dictates of municipal fashion; it erects a museum building in accordance with current architectural fashion; and it places in the building objects selected after the fashions

of art museums. These municipal, architectural, and museum-object fashions are becoming out-of-date. Conformity to them is not useful, but is moderately harmful, giving conformists the notion that they are doing something which in fact they are not doing.

If, now, museums are to be of greater use to the world, here are the things that museum brains must fight against: fashionable museum buildings, fashionable museum collections, and fashionable treatment of collections.

In the kind of conflict here indicated—brains and ideas against the inborn tendency of good citizens to prefer the old way—the better manner of conducting the campaign is plainly that of a seeming retreat, accompanied by the construction of new and better things in the peace and quiet of the rear. Then, when the cohorts of the ancient, honorable, and ignorant finally penetrate the lines of the intelligent and reach the rearguard, they will find there, already constructed and in use, institutions so well adapted to obvious needs that they will adopt them at once, and call them their own creations and the very realizations of the ideals for which they so long have fought.

That which common sense dictates as the proper course for protagonists of the new museum is precisely the course which they are following. Here and there you find men and women, relatively few but in the total a goodly number, who are constructing institutions of a usefulness so great that they are paying in some cases fair returns on their cost, even though burdened with the handicap of being called museums. Mr. Rea's museum studies of recent years are most discouraging if you set down results in cold figures; but quite cheering if you read them with an eye to the future. Miss Connolly's study is more optimistic, of necessity so, being an effort at construction rather than a description of conditions. The recent annual reports of this Association can give even the most depressed of museum revolutionists much encouragement, for they prove that the one ever-present desire of museum workers is to discover and exploit new avenues of definite usefulness.

I shall try to suggest this rapid increase in the utility of museums by drawing, from latter-day writings, reports of those forms of museum activities in which progressive museum workers take the most pride, which are most approved by their associates, and which are plainly making museums in which they appear more widely and more definitely useful to their respective communities. These varied forms

of activity I shall unite in one imaginary museum, which, as I shall try to suggest, is so valuable an asset to its community as to make it seem that its title museum, already a misnomer, should be changed to "institute of visual instruction." In thus depicting, in rough and incomplete outline, an institution of an excellence and effectiveness as yet quite unattained, I must add to it certain features and put upon it certain peculiarities born of my own imagination. Only thus, it seems, can I give the vision a certain needed strength and fullness. In thus adding, to what I find in actual practice, possibilities that are mere ejects of myself, I shall, as I am well aware, give you a project of which no one of you will entirely approve. But, after all, you are not asking of me something to which you can all give assent; but something which may strengthen your faith in your own work and—though this is asking too much of a non-expert—something which may move you to pursue your present tasks with added zeal and to venture upon new lines with proper courage.

Those things which the new museum will not do, and the kind of institution which it distinctly will not be, must be indicated chiefly by exclusion. It is not needful to begin by saying that the ideal institute of visual instruction will not be thus and so. One negation, however, seems essential; it is, that the new museum is not a museum of a certain kind. It is not of fine art or applied art; nor of pedagogy or technology, nor of hygiene or religion. Carefully selected and laboriously identified, completely labeled, fitly installed, and safely housed collections of objects in all the fields mentioned, and in subdivisions of those fields and in many others not mentioned, are needed now, and have now and always will have their select, high, and usually narrow range of usefulness. But basic to all the project I shall briefly set before you is the statement that either these must no longer be called museums, but collections; or a new name must be discovered and adopted, such as I have roughly suggested in the phrase "institute of visual instruction," for those creations whose usefulness is wide, direct, obvious, and in fair degree measurable.

And that word measurable leads to one more remark prefatory.

All public institutions, and museums are no exceptions, should give returns for their cost and those returns should be in good degree positive, definite, visible, measurable. The goodness of a museum is not in direct ratio to the cost of its building and the upkeep thereof, nor to the rarity, auction-value, or money cost of its collections. A museum is good only in so far as it is of use. It is easy to evade the

importance of this obvious fact by airy talk of the uplift value of architectural façades in the classic manner, of priceless antiques, of paintings by masters, and of ancient porcelains, jades, and lacquers, to say nothing of replicas of whales, Indians, and mastodons. But the evasion does not serve. Common sense demands that a publicly supported institution do something for its supporters, and that some part at least of what it does be capable of clear description and down-right valuation.

The museum project I present is in one of our large, ugly, industrious, and rich American cities of mixed population.

Its museum is near the center of the daily movement of its citizens. The narrow and modestly decorated entrance fronts on a side street just off a main artery of travel. The building itself is sixteen stories high, with an area of about 10,000 square feet on each floor, giving a total of 160,000 above the basement. It is built in the ordinary modern, fireproof, brick-steel-and-concrete, loft-building manner, at 25 cents per cubic foot, and cost, with the land, complete with decorations, furniture, and cases, about one million dollars.

The main structure is a parallelogram, about 60 by 160 feet. The lighting problem is solved by electricity, though windows are abundant, especially in workrooms.

The entrance hall, a stairway of moderate grandeur, cloak rooms, toilets, shipping rooms, several small halls of wonders, and several lecture rooms occupy the first floors. The halls of wonders contain a few examples of the oil paintings, sculptures, and curios which every museum of art is supposed to possess, and a few of the habitat groups, large skeletons, and curiosities of nature which convention bids us look for in a museum of science. If these were not on view in a convenient place and near the entrance, they would be earnestly and persistently sought by visitors until they were found. By putting them near the entrance and by giving the entrance just a touch of grandeur, all visitors who have the conventional museum expectancy enjoy at once the agreeable reactions they look for, and are fit to proceed further with a quiet and receptive mind. Many of these objects, or others akin to them, are found again where needed to teach this, that, and the other lesson. The modesty of the entrance hall is compensated for in part by the presence in it of a panel of glass mosaic, very unusual, very expensive, very laboriously made, very old, very historical, and distinctly a museum piece. Always among the objects shown in these halls of wonders are some which are recent

acquisitions, some which cost a great deal of money, some which enjoy provenances of astounding length and of aristocratic flavor, and several which are the only ones in the world, or at least in this country.

The floors on which are found the other things to be mentioned need not be specified. For all of them there is abundant space. Many of them are moved from time to time, as the development of the museum's activity and as changes in museum method dictate.

I can tell what the building contains and what are the activities which center in it in the briefest manner only. To those familiar with museum work the items on the list which follows will almost automatically expand themselves.

Our projected institute contains the following:

1. A staff adequate for the work which the objects named and the activities suggested may require. The staff is larger, relatively to size of building and cost of collections, and more highly paid, than it is in any existing museum of equal floor-space.

2. Paintings, many of them, chiefly recent American, but with an abundance of copies of old masterpieces. A few are shown in the building; some are lent to schools; some are placed in windows of stores; some are in libraries and branch libraries; and some are in the museum's branches.

3. Sculptures, including many American bronzes and others of all countries and all times, the latter being in most cases inexpensive copies. Most of these are usually stored, or lent, or are on exhibition in other places. There is no grand sculpture hall of plaster casts; though there is at least one room in which the peculiar esthetic emotion to be experienced in the presence of a congruous group of marble sculpture is produced.

4. Prints, a large collection, but not necessarily an expensive one. Valuable prints are accepted as gifts, but few are purchased. No large permanent collection is always on view.

5. A collection of about a million pictures of paintings, sculptures, architecture, and, chiefly, of decorated objects of daily use. It is classified by objects, schools, periods, etc. These are used by students in the building and are lent freely for home, studio, school, and factory use. They form one of the most valuable assets of the whole institution.

6. Collections of metal and wood work, textiles, etc. Such of these as were purchased are largely copies. The acquisition, even by gift,

of originals which have a very high market value and involve great labor in handling and great care for preservation is not encouraged.

7. A selection, constantly changing through rejections and renewals, of things made in the city. Of some of these an important exhibit is held each year. These local industries displays are quite frankly commercial. They illustrate each year the best the city can produce in the line selected. They are accompanied by or preceded by or followed by exhibits of goods in the same line from other countries and from other periods.

8. Many objects illustrating such fundamental industries, whether followed in the city or not, as have greatly influenced the development of civilization: objects of clay and glass, textiles, leather, metal objects, jewelry, wood, and foods.

These objects are shown from three standpoints: the historic development of the industries involved in its relation to the development of the social conditions influencing and influenced by them; the processes by which such objects are made today, with the science and skill involved; the art qualities inhering in such objects, in both past and present times.

9. Habitat groups, usually rather small. Many of them are in miniature. They include birds, animals, insects, and men. A few selected ones are always on view, and well arranged to be shown to groups of school children. Many of the less important and less complicated groups, small and easily moved, are placed in museum branches in windows of stores, and in branch libraries and school houses as needed.

10. Science collections. These are made with special reference, first, to the science work in the schools, and next, to the interests of local groups of scientists. They are quite largely arranged as needed.

11. A library, for reference and lending use.

12. Lanterns, lantern-slides, stereomotorgraphs, moving picture films, all of a character appropriate to the museum's work, with moving picture machines and rooms in which all can be shown to small audiences.

13. A department of cooperation. The whole museum is in itself an institution for encouraging the use, not only of objects in its possession, but also of natural and man-made features of the city and its immediate surroundings. It is the habit of the city to turn simultaneously to library and museum when information is wanted. It is the custom of the museum to send to the parks of the neighbor-

hood some of its movable collections which illustrate the phenomena then and there visible. And the park managers send to the museum many specimens illustrating natural phenomena. All art, industry, and science schools use the museum and its collections just so far as falls short of interfering with their more democratic use by the city's laymen. And their first impulse, when producing or acquiring anything capable of use in visual instruction, is to duplicate it or share it with the museum. These correlations tend to prevent unnecessary duplication of collections. One department of the museum contains lists, pictures, and reproductions of notable art, science, and industrial features of the city, and visual information as to its political, religious, philanthropic, and civic institutions.

14. With this department goes another which gives its time chiefly to instructing teachers and others in the art of visual instruction, including the preparation of labels and of descriptive leaflets.

15. Workshops. These include the places in which museum work is done, from the receipt examination, recording, photographing, cleaning, etc., of some ancient, rare, beautiful, and costly gift like an early textile, to the making of a simple case to hold a few geological specimens for lending. The shops are not rooms, save for a few types of work, but spaces in one or more rooms to which the public has access. Separated from the workers only by railings, visitors can see the handwork that goes to the making of an active, teaching institution. Here boys and girls note how artisan, mechanic, or craftsman treat the museum's rare material and bring it into proper form for effective use in visual instruction. Child and man alike are somewhat moved to interest, appreciation, clear understanding, and development of their powers by reading of a thing or process; more by reading and at the same time seeing a picture of thing or process; still more again by seeing the actual thing or process and learning of it through the ear; still more by handling and hearing and asking questions and receiving replies; and most of all by trying, under skillful guidance, to produce the thing or to repeat the process.

16. Branches. One central museum can be of slight benefit to all the people of a large city, since not all can easily and quickly reach it, unless it extends its work in two ways: by lending objects, and by establishing branch museums.

The branches are nearly all little more than rooms, like stores, fronting on the street, at the street level, in the business parts of the city. One is in a building of its own. Others are in factories,

stores, schools, settlements, clubs, and churches. They are decorated and finished in accordance with the uses made of them. Every branch aims to be a complete teaching museum, and is, so far as possible, fitted to the character of its neighborhood, that is, to the degree of education and the occupations of its residents.

17. A school. This had been in active operation as a school for many years before the museum opened. As it grew slowly, and chiefly on its own initiative, it had adapted itself admirably to the demands of such young people of the community as wished to work in the field of applied art, or who, being already engaged in offices and shops, wished to improve themselves by definite and formal instruction. It is now open both day and evening and follows, as income permits, the development of the best schools of fine and applied art in the country.

The museum teaches daily in its main building and its branches and wherever the objects it lends may go. The influence it has on a community is difficult to measure. We can put our fingers on results no more than we can say of a drop of water in the Gulf of Mexico that it is the result of a shower in South Dakota. Emotions sink into the soul; actions seep out at other levels of time and circumstances. All we can do is to plant and water; somebody else will sit in the shade.

It will be said that it is impossible for a museum in any city to secure funds for the purchase of efficient brains with which to carry out a program that even approximates the one here roughly outlined. But large museum incomes are spent today in the acquisition of expensive treasures, to which a few point with pride, on which a few gaze with that improper self-satisfaction which is bought at the cost of museum fatigue.

This paper is based on the belief that the conditions which led to these expenditures are past; and that the primary duty of those same institutions is to justify their existence by becoming effective agencies in the intellectual, esthetic, industrial, and moral progress of their respective communities. If they do not do this they should resign themselves to the acceptance for all time of the fact that they are mere museums. Then, in their respective communities, should arise new institutions, fitted to satisfy the needs of these days—institutes of visual instruction.

Chairman Gilman.—"I feel like giving the united thanks of the audience for all the papers that have been read. Each has had its special message, and Mr. Dana's paper is certainly a most admirable climax to a very interesting evening.

"What is a museum man? He is an apostle of the object. We are all apostles of the object, and Mr. Dana has described the future possibilities with regard to what apostles of the object might do. He has called his vision an institute of visual instruction. Yet it is only what has previously been called object teaching. It seems to me, however, that with the institute of visual instruction in the future there must still remain the possibly somewhat less active institution which we call a museum. How then should we describe a museum? I think it might be described as the attic of the community. Every well regulated family ought to have an attic where things are kept, sometimes for curiosity, sometimes because they are charming old things too valuable to throw away, yet entirely gone out of use. We put these in the attic. I think the human race will always have to have attics and these attics are museums. There is no doubt but that we also have to have institutes of visual instruction. I do not know whether they will be separate institutions, but I am impressed with the immense reach of the possibilities of object teaching and the great reform which I believe our successors will one day see in the methods of education. The immensity of the change which will come about as the result of object teaching, such as we have had described to us during the past two days, is perfectly wonderful."

President Farrington.—"Mr. Dana has objected because museums pay high market prices. They do this, not because they want to, but because they have to. The high market price simply means that there is great demand for the object, that it is something the human race wants. I hope museums will not be abused unjustly because they pay high prices for what the people want.

"Mr. Dana calls his museum an institute of visual instruction, but if I understood him correctly he urged instruction along many other lines, through hearing and feeling and various other forms of culture. The museum does all of these things, including visual instruction, so that the term museum seems to me a broader one."

The Chair then read a letter from the Secretary of the American Federation of Arts extending to the American Association of Museums

a cordial invitation to participate in the seventh annual convention of the Federation on May 17, 18, and 19.

The evening session then adjourned.

SESSION OF WEDNESDAY, MAY 17

Morning

The morning session was called to order by President Farrington.

Dr. James E. Talmage, director of the Deseret Museum, Salt Lake City, presented a report of his attendance as a delegate from the Association at the Second Pan-American Scientific Congress in Washington, December 27, 1915 to January 8, 1916.

Mr. Louis Earle Rowe, director of the Rhode Island School of Design, presented the following paper:

THE MACLEAN MUSEUM CASE

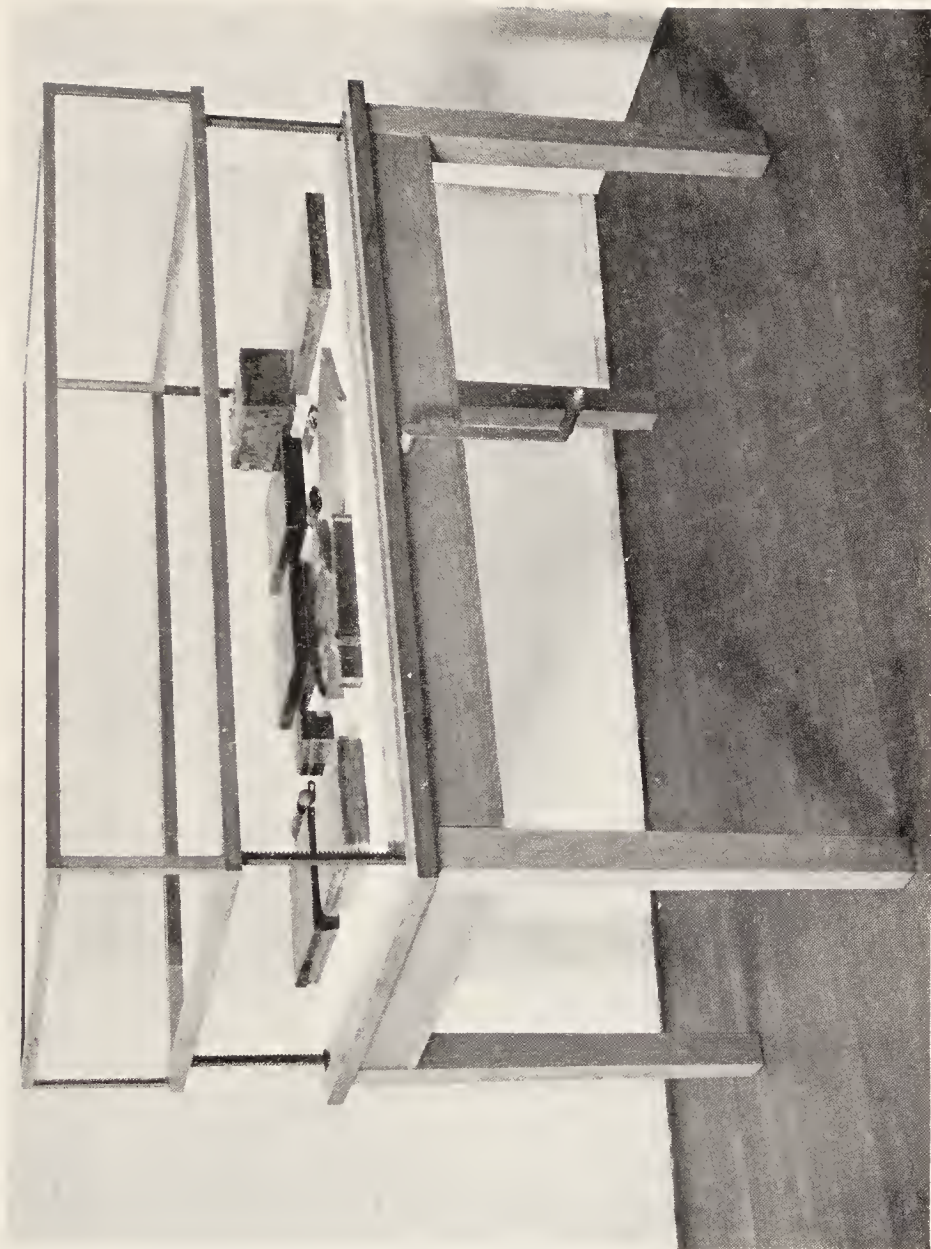
It is said that "Charles Dudley Warner once remarked that until he saw the Annapolis at low tide, he never realized how much it added to the looks of a river to have water in it." I think that many of us in museum work hardly realize how important the matter of cases in a museum really is, until we begin careful studies of what has been done elsewhere, and duly note the successes and failures. But in justice it might be stated that there is usually but little opportunity to arrive at satisfactory conclusions, for frequently our managing boards of trustees impose on us a heritage of cases which makes us shiver, but which we are powerless to have replaced.

Still is not a little of the criticism against our cases perhaps to be laid at our own doors? Truly, as we look over the proceedings of the several museum associations, or search in the limited museum literature at present available, we see little evidence of systematic study of the problem, or a critical analysis of successes or failures in this important branch of museum installation. To be sure, general lines of theoretical value have been suggested, but we may well ask how often have we available serious material, showing careful study, such as Mr. B. I. Gilman's article in the *Scientific Monthly* on "Museum Fatigue." Whether we agree with the conclusions arrived at is not to the point, the fact remains that few of us have studied the problem of cases, in general and particular, with as much profit to ourselves and our fellow-workers as is possible.

The present brief paper is not to treat of the development of cases in general, and the degree of attention paid to practical requirements, for that is considered by another speaker. Rather is it our purpose to consider the results of a long series of experiments which have produced a type of museum case which merits our consideration. I refer to the type developed by Mr. W. W. MacLean of the Boston Museum of Fine Arts. The writer has had opportunity to see this case at many stages of its growth, and feels confident that no other case yet devised in America has been the subject of greater study on the part of its designer.

It is generally understood that a practical museum case should be designed primarily to show off its contents to the best advantage, to be dust-proof, burglar-proof, and easy of access for the museum authorities, and it should be so built that the height of the case does not cause unnecessary fatigue, that it is easy to clean, and that it will add to the distinction of the galleries. Other refinements include the color of wood used, the reduction to a minimum of the frame holding the glass, a consideration of the height of the case proper, and a selection of suitable pedestals and backgrounds. Many other points, both positive and negative, might also be mentioned as features of an ideal case. Moreover, the matter of expense is a serious one, for few institutions are in a position to ignore this figure. All of the points just mentioned were long considered in the creation of the MacLean case.

It will perhaps further our interest if we compare two other cases with the one under discussion, namely that at the Musée des Arts Decoratifs in Paris, and that at the Kaiser Friedrich Museum in Berlin. Each of these two represents the finest yet devised by either French or German museums. In the first place a general type for shape of leg and proportion of base was determined. Both use table, high floor, and wall types. The French case has metal frames about 20 inches wide, reddish-bronze in finish; the pedestal is of wood, with legs carved in *l'art nouveau* style and recessed under the case. Its height to the floor of the case is about $32\frac{1}{2}$ inches. In the table-case type the height to top of glass is about 39 inches. These cases have features which are open to criticism. They are not securely locked, are not dust-proof, and are usually top-heavy. Many are frequently small in exhibition area, with a decided tendency towards waste space. The shape of the legs is not restful,



MacLEAN TABLE CASE

and the case in general does not show off all classes of objects to advantage.

The Kaiser Friedrich case type is better, with very careful study of proportion and exhibition requirements. The cases are mostly of wood, fine-grained, well-made, and an ornament to the museum. Special cases are devised for particular objects without departure from the type scheme. Moreover, there is little or no waste space, they are well-locked, and are dust-proof.

The MacLean case will be discussed in three examples—table, high floor, and wall cases.

The wood used is frequently ash, pear, or French walnut, although "silver wood" makes a beautiful case. This is much to be preferred to rosewood and the others frequently seen, which are disturbing in grain. Moreover, light finish is preferred to black. In shape the pedestals are simple and plain in line, with legs sufficiently large to secure perfect rigidity. There is no carving to catch the dust or add unnecessary expense. The glass chosen is of the best type, white and not greenish in color, and is held in place by quarter-rounds.

Perhaps one of the most distinguishing features is the use of wood rather than metal for the frame holding the glass. It has been found possible to use a method of construction which admits of the reduction of the wood to a width of three-fourths of an inch. In this form the cases have not undergone the suggested warping, bending, or shrinking which exponents of the metal case have claimed. The frame has a tongue on the bottom which fits into a groove in the base, thus making the case dust-proof.

The method of access to the interior of the case is unique in America, its nearest comparison being with the German case designed by G. E. Pazaurek for the North Bohemian Museum of Art Industry. The MacLean case has hollow legs within which are bars of steel with teeth, known among machinists as "racks," the upper part ending in a pin which fits into the frame of the case. A worm-and-gear device, of most simple form, works the racks up and down when desired. This is controlled by a large handle working on a single key. By this device the entire top of the case may be lifted from its bed to a height in proportion to the length of the legs of the case. These alone determine the length of the "racks." A lock on the key-rod prevents the use of a handle except by museum authorities, and a similar protection makes it impossible to lift the top from the

pins on the racks. This arrangement is used on the table and high floor cases.

An interesting point of comparison is in the length and width of the cases. The floor case of the French type is 30 inches wide by $51\frac{1}{2}$ inches long, the MacLean case is 34 inches wide and 60 inches long. It has been found possible to make all this gain of exhibition area without loss of strength. In this way an economy is secured which is most advantageous.

The MacLean high floor case is $39\frac{1}{2}$ inches high from the floor of the base and otherwise has the same dimensions of length and width as the floor case. For this reason the MacLean type has a decided advantage over others, as the glass tops are interchangeable, if so desired.

The MacLean wall case has distinctive refinements of proportion and has a maximum of light and exhibition area. Glass is used at the top in some examples, although this is not always an advantage as it catches dust. The locking device is different from that on the table and high floor cases, but is most effective. In this case the problem of height and depth has been very carefully worked out.

The Kaiser Friedrich cases are more nearly like the MacLean cases than any other, and both illustrate the advantage of thorough study and experiment.

Lastly, the MacLean case is an economical one, when the quality of material and workmanship is considered.

The designer of these cases feels that the type is open to many improvements, so that we may look for other experiments. Enough has been said, however, to present the care with which the type has been devised, and to suggest that any museum trustee or curator, whether in an institution of art or natural history, will find it decidedly to his advantage to consider the MacLean case.

Mr. Harold L. Madison, curator of the Park Museum, Providence, presented the following paper:

MUSEUM EXHIBITION CASES¹

Any discussion of museum exhibition cases involves the recognition of two clearly defined principles and the consideration of a third.

The first principle, maintained by such authorities as Gray, Huxley, Hooker, Wallace, Flower, and Goode, states that the purpose of museums is twofold: (1) to diffuse "instruction and rational amusement among the mass of the people, and (2) to afford the scientific student every possible means of examining and studying the specimens of which the museum consists."

The second principle, urged by A. B. Meyer and best stated by Carl Mobius, is in substance as follows: The magazine arrangement of museums, which is the result of historical causes, interferes with their best use, both by the public and by the student. The remedy is to divide the contents of museums into a main portion to be closely installed in rooms accessible only upon application (study collection), and a small collection of choice objects spaciouly installed in public galleries (show collections). The advantages of separate study and show collections are that the latter is a permanent guide to the best in the museum, and that the proposed division helps to preserve objects and is economical of space. The division is imperative in museums of art as well as of science. The interests of the mass of the public should determine the arrangement of museums and are subserved, without disadvantage to the student, by this division.²

The third principle declares (1) that a museum which displays relatively few objects in the most attractive manner should find it possible to make frequent changes in certain types of exhibits, and (2) that the exhibition problem may find its best solution in the employment in large museums of an exhibition staff whose duties shall be to cooperate with the scientific staff in presenting to the public the most interesting material in the several departments.

¹ In preparation of this paper circular letters requesting photographs of their exhibition cases were sent to forty-five museums in different parts of the United States and Canada. Replies and, whenever possible, photographs were received from twenty-seven natural history museums, eight art museums, and two historical museums. Nine of these are university museums. In addition, Prof. Edward S. Morse, Dr. Frederic A. Lucas, Mr. Benj. Ives Gilman, Mr. L. Earle Rowe, Mr. Henry L. Ward, Mr. Paul M. Rea, and Dr. Hermon C. Bumpus have given generously of their time and advice. To all of these I wish to express my thanks and appreciation for their courtesy and cooperation.

² See Bibliography, Mobius.

EXHIBITION CASES

The purpose of exhibition cases is twofold: (1) to protect exhibited objects from various external agencies that might remove, destroy, deface, or otherwise injure them, and (2) to present the objects to the visitor in such a manner as best to display their beauty, their individual peculiarities, their relationships with other objects, and their value to mankind.

Older museum cases are characterized by (1) storage-cabinet base, (2) storage-shelf top, (3) heavy frame members of wood, (4) ornate dust-catching design, (5) abnormal length, (6) extreme height, (7) low base, (8) horizontal sash bars, (9) hinged or sliding doors, (10) open construction permitting entrance of dust, insects, and thieves.

These cases are gradually being replaced on one hand by fireproof storage vaults, and on the other hand by real exhibition cases with (1) delicate frame members of wood or metal, (2) reduced length and height, (3) absence of storage space, (4) relatively higher bases, (5) simple easily cleaned design, (6) large plates of glass, (7) absence of horizontal sash bars, (8) removable knock-down sides or top or a solid upper section raised or lowered by a mechanical device, (9) construction that is dust-proof, insect-proof, and theft-proof.

Complete description of a case requires a statement of (1) position occupied by the glass through which the visitor views the object, i.e., vertical, horizontal, or nearly so; (2) location for which case is designed, i.e., wall or floor (free-standing); (3) character of base or lower section, i.e., solid, leg, glazed, cabinet, pedestal; (4) character of top or upper section, i.e., deep, shallow, screen; (5) material of which base or top is made, i.e., wood, steel, bronze, glass; (6) shelving, i.e., glass, wood, steel; (7) objects exhibited within the case.

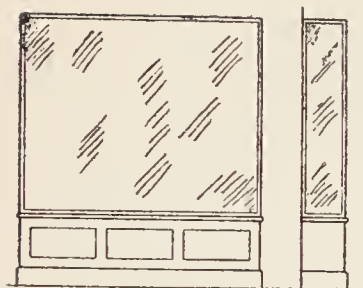
CLASSIFICATION OF CASES

Cases may be classified primarily as (1) vertical cases and screens for wall or floor, and (2) horizontal table and desk cases for wall or floor.

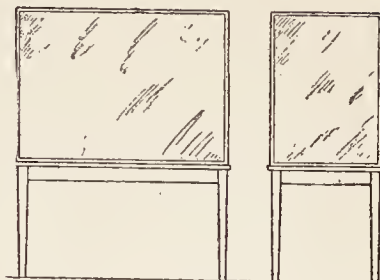
All cases have either solid, leg, glazed, cabinet or pedestal bases. Group cases are special forms of vertical wall and floor cases. The "A" case and the alcove case are special forms of vertical floor cases. Screens may be either fixed, sliding, or swinging.

Vertical cases. By vertical cases is meant any cases having the

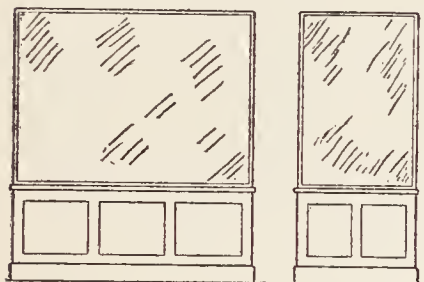
PLATE I.
VERTICAL CASES.



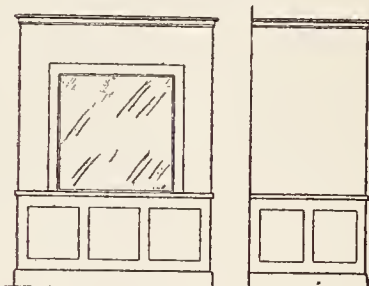
A.
WALL CASE, SOLID BASE.



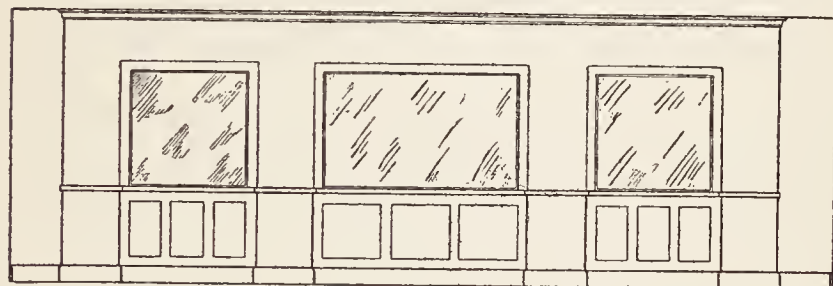
B.
FLOOR CASE LEG BASE.



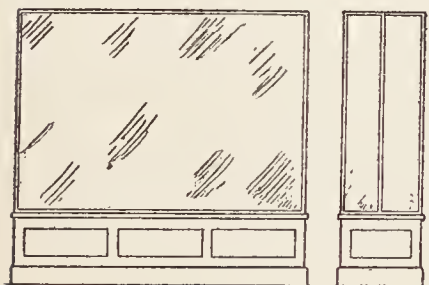
C
FLOOR or GROUP CASE SOLID BASE.



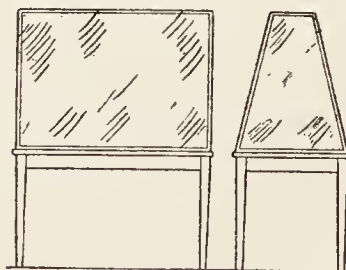
D.
GROUP CASE BOX TYPE.



E
GROUP CASES BUILT-IN TYPE.



F
ALCOVE CASE.



G.
'A' CASE LEG BASE.

glass through which the visitor views the object set vertically or nearly so (pl. I). The distinguishing features of vertical cases are: (1) Economy of floor space as in a wall or alcove case. (2) Visible display of objects from a distance. (3) Clean glass. The glass of vertical cases is touched relatively little and finger marks are not so easily seen on vertical surfaces. (4) Comfort for the visitor. (5) Well and evenly-lighted objects. (6) Relatively little storage space. (7) Exhibition of any kind of objects.

Horizontal cases. By horizontal cases is meant any cases having the glass through which the visitor views the object set horizontally or nearly so (pl. II, figs. A-F). This type is practically limited to desk and table varieties of different designs for wall or floor. Its early form has a solid storage-cabinet base. Its later form has a leg base. Its top or upper section is usually shallow. The angle of slant of the desk type is exceedingly variable. A wall desk 27 inches deep, having the back raised 12 inches and the front 4 inches from the top of the base is a good average. The tendency to use these cases in museums is steadily decreasing. The distinguishing features of horizontal cases are: (1) Occupation of excessive floor space. (2) Invisibility of objects from a distance. (3) Soiled glass. Horizontal glass is leaned upon and handled by almost every visitor and every finger mark is visible to the next visitor. (4) Discomfort for the visitor. Unless the case is very high and narrow, the visitor must bend the body to a fatiguing angle to see the exhibit. (5) Objects poorly lighted. Overhead light is the only usable light; objects cannot be thrown into relief and the visitor gets in his own light when bending over the case. (6) Adapted only for small or flat objects. (7) Large amount of storage space beneath.

Wall cases. The distinctive marks of a wall case are a front and a back. The latter is always opaque to be set against the wall of a room.

Floor cases. These are distinguished by having glass on all four sides and are meant to stand free on the floor.

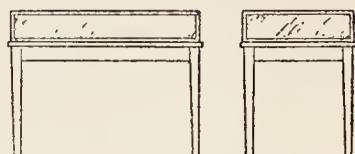
Combination cases. A rather common type of case is the combination horizontal and vertical (pl. II, figs. G-J). The single form is used as a wall case, the double form as a floor case. It resembles the old-fashioned secretary with slanting desk top and vertical cupboards. The apparent physical discomfort which such a case produces on the visitor is sufficient argument against its increased use. It exists in its best form at the Milwaukee Museum as a floor case

PLATE II.
HORIZONTAL CASES,
SCREENS, AND PEDESTALS.



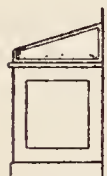
A.

TABLE CASE SOLID BASE.



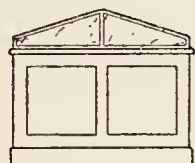
B.

TABLE CASE LEG BASE.



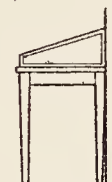
C.

DESK CASES
WALL TYPE.



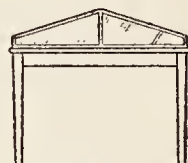
D.

SOLID BASE.
FLOOR TYPE.



E.

DESK CASES
WALL TYPE.



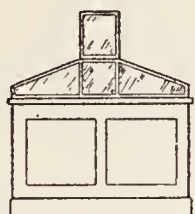
F.

LEG BASE.
FLOOR TYPE.



G.

COMBINATION CASES
WALL TYPE.



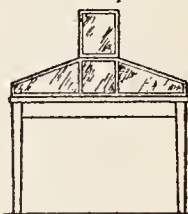
H.

SOLID BASE.
FLOOR TYPE.



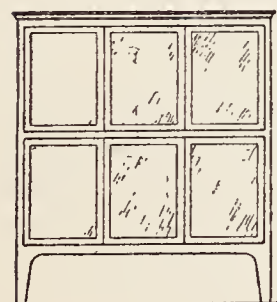
I.

COMBINATION CASES
WALL TYPE.



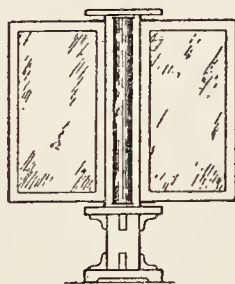
J.

LEG BASE.
FLOOR TYPE.



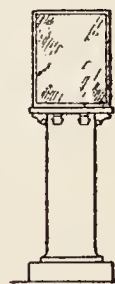
K.

SLIDING SCREEN.



L.

SWINGING SCREEN.



M.

PEDESTAL.

with flat-leg base, and at the Peabody Museum in Salem as a floor case with leg base. Here it is 36 inches high to top of glass at cornice. Shallow desks on either side are 18 inches wide. The vertical center is 6 inches wide and 24 inches high, with opaque partition and no shelves.

Alcove cases (pl. I, fig. F). Perhaps no exhibition case will live longer than that known as the alcove case. Its position with one end against the wall between low-cut windows is familiar to everyone. Its use is almost necessary where there is low side lighting. In its oldest form it has glass on all four sides, low base, high frame, and a central longitudinal partition. Its use results in a room difficult to police and not at all pleasing to the eye.

"A" cases (pl. I, fig. G). This type of case is constructed to lessen reflections, to reduce waste space, and to enable the visitor to get nearer the objects. It makes the visitor lean forward, however, gives him a sensation of tipping, and is therefore neither physically nor mentally comfortable.

Screens (pl. II, figs. K, L). Screens are best adapted to walls and pillars. Floor screens require the use of legs set at right angles to the screen and in general use are not satisfactory. Some museums make use of swinging screens arranged like the leaves of a book set on end. Their most serious defect is that two or more persons cannot comfortably use them at the same time. While the same objection may be offered to sliding screens, they are really much more usable. Screens are desirable devices for exhibiting in a shallow space such objects as textiles and photographs. The best type of screen in use is at the Museum of Fine Arts in Boston.

Group cases (pl. I, figs. C-E). Habitat groups are exhibited in special floor cases where they may be viewed from all sides, or in built-in cases, or in box cases with glass fronts and painted panoramas on concave backgrounds. The flat tops are usually of glass through which natural or artificial light passes. An improved form of background is obtained by using a groundwork of fine-mesh wire shaped to resemble the dome of the sky to the horizon line. On its concave surface plaster of paris is smoothly spread and when dry offers an ideal surface to the artist for his picture.

While a small museum cannot indulge in large group cases, it can afford group cases about 3 by 5 by 7 feet in which inexpensive habitat groups may be exhibited with simple pleasing backgrounds.

To avoid reflection, the American Museum of Natural History has

found it advisable to have the front glass slant inward at the bottom about 1 inch for every foot in height. There is a lack of agreement as to the height of the bottom edge of the glass from the floor. The maximum yet used is 36 inches, while in some instances the glass reaches to the floor. A good rule is to have the center of the glass in line with the important object of the group, with at least a foot of frame between the edges of the glass and the sides of the case.

CASE DETAILS

Bases. Bases are of five kinds: glazed, solid, leg, cabinet, or pedestal.

The glazed base, characteristic of the Kensington case, has almost disappeared. An exceptional and effective use of it may be seen at the Field Museum in Chicago.

The solid base should always be used on large floor cases that demand a low base (pl. I, fig. C). A high solid base on a floor case (pl. II, figs. A, D, H) is undesirable, not only because it makes policing more difficult, but because it detracts from the appearance of the room. Apparently there is a height below which a solid base should always be specified. In general, this occurs when the relation of the base to the total height is about 1 to 3. For shallow wall cases a solid base is always preferred (pl. I, fig. A). It gives solidity to an otherwise top-heavy case, and eliminates the temptation to throw rubbish beneath.

The leg base has been used on vertical floor cases where the base is from 30 to 36 inches high (pl. I, fig. B), and on wall and floor cases of the table or desk types (pl. II, figs. B, E, F). Obviously the policing problem is much simplified by this design, and bases so constructed are less expensive than solid bases of the same height. There has been a tendency recently to construct a so-called sanitary base of short legs, similar to that used for office furniture, in the belief that it makes cleaning easier and prevents marring the base with shoes. Both premises are wrong, since an exhibition case cannot be moved about like office furniture, and since it requires more labor to brush beneath the case than to brush around it. On cases of the vertical type it gives an ugly short-legged appearance with high center of gravity. Legs should be used instead of a solid base when the height of the base is to the height of the top as much as 3 is to 4. Again, it is only against table, desk, or low vertical cases that visitors strike

their toes, and it is more economical to construct such cases with high legs than with solid bases with or without sanitary legs.

The cabinet base (same as solid base in pl. II, fig. A, but opening to afford storage space) has been used most frequently on exhibition cases. It is neither economical of exhibition floor space nor attractive in appearance. Need of space to store objects and lack of funds to build storage vaults have been strong influences in perpetuating this type of base. It is extravagant of the student's time and annoying to visitors.

The pedestal base (pl. II, fig. M) should be more generally used in natural history museums, not only to secure variety of display but to exhibit some particularly beautiful or rare object to the best advantage.

In general, bases should be of a simple design that will not collect dust.

Top or upper sections. Among the differences already noted between the older and newer types of exhibition cases, the most marked are those pertaining to the top or upper section.

What is known as Library Bureau standard clip construction first gave to museums a thoroughly satisfactory narrow frame member that is not only durable and rigid, but also dust-proof and insect-proof. The earliest case of this type was made in 1908. Its frame members were held together with screws. It was the result of frequent conferences between Messrs. H. R. Datz and D. E. Hunter of the Library Bureau and Mr. H. W. Kent of the Metropolitan Museum of Art. The clip now used to hold the frame members together was invented in 1909 by Dr. H. C. Bumpus of the American Museum of Natural History.

In the history of museum cases, this is the first real knock-down case that can be quickly stored or quickly moved. The fact that any side or end can be released instantly and removed from the rest of the case has made it possible to do away with the hinged door, which sagged if heavy, or which was in the way during installation, or whose outer edge had to be supported when open if it was in the front of a shallow case. This construction also replaces the sliding door, which was never satisfactory, and has made unnecessary such devices as the removable back and the partition on rollers. By the use of adhesive packing strips, working in conjunction with continuous crimped steel springs, the glass is set in a solid channel, thereby making a joint which is perfectly dust-proof and insect-proof without

the use of putty or cement. Its only limitation appears to be for large, hinged, single-sheet, plate-glass doors, but this same criticism may be made of wide wood or metal frames.

Recently there has been placed on the market a bronze-frame case, similar to that of the Library Bureau, but having as its special feature an invisible hook-and-eye construction which secures a smooth external edge uninterrupted by clips or locks. Its frame is slightly heavier, being 1 to $1\frac{1}{4}$ inches wide. It is made by the Snead Iron Works Company, Inc.

Another type of case, much more limited in its use than the types just described, is known in Europe as the Reichenberger case,³ invented by Dr. G. E. Pazaurek in 1898. In much improved form it is known in America as the MacLean case,⁴ invented independently by Mr. W. W. MacLean of the Museum of Fine Arts in Boston. It consists of a five-sided rigid glass box with narrow frame members of iron in the first instance and of $\frac{3}{4}$ -inch wood in the latter type. It is set on a solid or leg base. By a mechanical device the box may be raised or lowered and locked. It is probably the nearest approach to an air-tight case yet invented. It lacks the knock-down and storage features of the bronze case and is evidently limited to small sizes. It is very satisfactory on a leg base about 36 by 60 inches. When used for a shallow vertical case, difficulty is experienced in installing objects and in cleaning the inside of the glass.

Dimensions. Museum visitors soon become fatigued (1) because objects are placed too high above or too far below the level of the eyes, (2) because objects are placed too far from the eyes, and (3) because objects are placed in long monotonous rows.

During the past two years there has been a tendency to build low vertical floor cases about 4 feet 9 inches high over all. The advantages of such cases are that they are economical of glass, make an attractive room, and facilitate policing, but the height of this case cannot be too strongly condemned. It has annoying top frame-members which require the visitor to stand on toes to look through the top glass or to bend over to look through the side glass. This case might be improved by raising its low base, thereby bringing the top edge of the case above the level of the eyes. An all-wood base could then be substituted for the slate or marble, since visitors do not mar the bases of true vertical cases.

³ See Bibliography, Pazaurek.

⁴ For illustration see paper by L. E. Rowe, pp. 89-92.

The eyes of the average person are about 60 inches from the floor. The most comfortable optical distance is 12 inches, and the body may be bent forward 15 inches without discomfort. Painful fatigue soon results from leaning too far forward or assuming postures involving bending the knees, balancing on the toes, bending back from the hips, or craning the neck.

The following table of measurements is based on the observations, experiments, and opinions of a number of writers, and upon my own studies. Such cases are estimated as most desirable for at least 80 per cent of objects of art and 60 per cent of objects of science. The most variable dimension is that of depth, while of course all dimensions will vary from the shallow screen to the very large case for special objects.

CASE	CLASS OF VISITORS	HEIGHT OVER ALL	HEIGHT OF BASE	HEIGHT OF TOP	LENGTH	DEPTH
Horizontal.....	Adults	38-40	36	2-4	60-72	12-20
	Children	32-34	30	2-4	60	10-16
Vertical Wall.....	Adults	84	22	62	12-72	3-12
	Children	70	18	52	12-60	3-12
Vertical Floor.....	Adults	78-80	36	42-44	36-72	12-36
	Children	66	30	36	36-60	12-36

All measurements in inches.

The most satisfactory exhibition case, then, should not be over 84 inches high except for special objects. It should have a higher base than is now in common use. If a wall case, it should be as shallow as a single layer of objects will permit. It should be short to afford ease in handling, to break the monotony of a long case, and to permit variety in installation.⁵

Shelving. Certain objects, such as vases in an art museum, and strictly terrestrial animals in a natural history museum, should be placed on shelves or their equivalent.

The glass shelf has two serious defects. Being transparent, it affords no background for objects, and having such a smooth surface, slight jars of floor or building cause objects to slip from their position. In spite of extensive use of glass for shelves, many of the best authorities prefer wood.

⁵ See Bibliography, Gilman.

For the vertical floor case with high base, the built-up pyramid, which may be varied in design, offers surface for any desired background and presents an attractive exhibit to the visitor. Briefly, almost all objects are improved by a background and a side or top light which shall throw them into relief, and the question of shelves should be approached from this standpoint. I am coming to believe that almost everything may be exhibited in proper cases without shelves.

Finish. The exterior finish of exhibition cases should be governed by the best rules and usages of decorative art. People of refinement and culture go to infinite pains to secure an atmosphere of quiet beauty and good taste in their homes, while it too often happens that the authorities of a public museum make no effort to find out for themselves or have others find out for them what should be the color of walls, floors, shades, and cases.

Cases are essentially the furniture of the exhibition room and, while it is not possible to state what external finish is best in all instances, it is possible to furnish certain definite suggestions:

1. Brilliant, striking colors, such as red, orange, and yellow in large quantities should be avoided, since they tire quickly. They will usually be found in sufficient quantity in the objects to be displayed without adding them in the finish of the cases. Nature is always sparing of red, orange, and yellow.

2. Black is conspicuous, depressing, and hard to clean.

3. Quiet colors, such as grays, browns, blues, and purples should be utilized.

4. If the external finish makes the case unduly conspicuous, it should be changed.

5. If the discriminating visitor finds the room forbidding or otherwise uninviting the cause should be corrected.

6. The objects to be exhibited in a room may require either warm brilliant tones or a cold forbidding atmosphere to show them in their full significance.

From the above considerations it may be inferred that mahogany or antique oak should not be indulged in too freely. Birch, walnut, ash, maple, oak, gum, or pear may be used to advantage in their natural finish and are suitable to receive stains in grays, greens, and browns. Bronze lends itself particularly well to rich browns, while steel may be enameled in any color.

CASE MATERIALS

Glass. Almost every type of exhibition case requires glass. Unquestionably it should be plate glass. One may conceive a situation in which the use of double-thick window glass might be justifiable. The specifications for glass should read: "All glass shall be $\frac{1}{4}$ -inch American polished plate, selected glazing quality, white, free from bubbles, scratches, and other imperfections."

Wood and metal. The parts of a case other than the glass may be of wood or metal. One may be inclined to order wood-frame cases to save expense. There is considerable difference in price between all-metal (base and frame members) and all-wood cases. If the base is of wood and the frame members of metal, the difference in price may be negligible, with the advantage of securing a narrow-frame ($\frac{3}{4}$ to $1\frac{1}{4}$ inches) top section.

The relative advantages of wood and metal may be tabulated thus:

<i>Wood</i>	<i>Metal</i>
1. Inexpensive.	1. Expensive.
2. Not fire-resisting.	2. Fire-resisting.
3. Soft velvet finish.	3. Often metallic finish, but may be given finish indistinguishable from wood.
4. Heavy frame members (except in the MacLean case).	4. Delicate narrow frame members.
5. Usually made into a permanent unit; may be made as a knock-down case.	5. Ideal for knock-down cases; easily and quickly assembled and taken apart.

The metals most commonly used for case construction are bronze and steel. The bronze is composed of copper, zinc, and lead and is known commercially as "extruded brass." Steel is less expensive than bronze but is neither so rigid nor so durable. While its fusing point is higher, the temperature at which it will distort and buckle is lower. It is more susceptible to chemical action. It cannot be given a natural finish, but must be enameled, and if this is done in the proper manner the cost will be about as much as for bronze. For narrow frame members, therefore, bronze is to be preferred. For bases, steel may be substituted for wood if desired.

While solid bases are injured by shoes on horizontal cases only, protection from the mop, in the form of a narrow slate base strip, is inexpensive and desirable for all solid bases.

Hardware. Small cases do not need casters, but large heavy cases should have them. Leveling devices may be obtained if desired but may be considered a needless expense.

Cases may be constructed so as not to require hinges. If hinges are used, they should be put on so that it is impossible to remove them when the door is closed. They should be close enough together to give ample strength.

For cases which are to be proof against dust, insect, and theft, locks which bolt in the middle and at the top and bottom should be used.

Fireproofing. No building material is absolutely proof against a devastating fire, but some materials are more fire-resisting than others. Fire is more likely to start or to travel on wood than on metal or glass. It follows that when protection from fire is an item to be considered in selecting exhibition cases, materials should be chosen which an incipient fire will not ignite.

ARRANGEMENT OF CASES

The arrangement of cases in an exhibition hall is important. There may be, and often is, an artistic or architectural reason for some particular arrangement. Barring this factor, the placing of cases should be based on the direction and source of light and on ease and efficiency in policing the hall. In some museums there is an attendant for each room; in others a single individual may police several rooms. Any arrangement that gives the attendant immediate and full view of every part of the room is obviously advisable. Wherever possible, therefore, alcoves, hiding-places, and floor cases with solid bases or solid backs should be avoided. Side or top light which will throw objects into relief is always to be desired, hence cases should be placed with this factor always in mind.

Old-style cases. Most museums are over-supplied with heirloom exhibition cases, more correctly called storage cases. It is not within the autocracy of the most ambitious director to discard such cases, but many may be remodeled or fitted with false backs and false bases and refinished to serve until other cases can be purchased.

Other considerations. Among other factors which should determine the style, material, and finish of cases the following may be mentioned: (1) The funds available for purchase of cases. (2) The policy of the museum authorities—some prefer to wait until the best

may be had, while others require that much be done at once with the funds at hand. (3) The external and internal architecture of the building. A small museum gains in apparent size by installing small cases and small groups. A museum whose building was a colonial mansion should be furnished with cases in harmony with colonial architecture. It should be possible to do this without sacrificing other desirable qualities. (4) The class of people to use the museum, whether children or adults.

SPECIFICATIONS

Only very large museums can afford to build their own cases. Other museums must order from case manufacturers. If the order is to amount to any considerable sum, specifications open for competitive bidding will secure the best cases for the least money. Manufacturers should not be allowed to write the specifications, though their advice and assistance often may be helpful.

The specifications recently issued by the City of Providence for the Park Museum were prepared by the curator of the museum in conjunction with an engineer of the department of public buildings who had a thorough knowledge of specification writing. Representatives of different case manufacturers were consulted and the final draft was made only after the law department of the city had made necessary legal changes. The following important provisions were included in addition to the usual requirements:

1. Sample of material and finish to be submitted and approved before work is begun.
2. Bids to be received only from bona fide manufacturers of cases, and persons not manufacturing to give name of manufacturer they represent.
3. Careful detail as to how wood or metal shall be prepared, cut, and finished.
4. Standardizing of at least two methods of construction.
5. Inspection and guarantee.

The most advanced thinkers in both art and natural history museums admit that we have not arrived at an ideal exhibition case and, in the Darwinian nature of things, it is highly probable that we never shall.

CONCLUSIONS

1. A museum exhibition case should not in any sense be a storage case.
2. All exhibition cases should be of the vertical type.
3. Bases of exhibition cases should be higher than is the general practice at present.
4. Except for special purposes, wall exhibition cases should be shallow (not over 12 inches deep).
5. All exhibition cases should be at least 6 feet high (7 feet is usually better).
6. Glass should be set in narrow metal or narrow wood frames.
7. Except for special exhibits, no case should be over 6 feet long.
8. In the long run, it is unwise to sacrifice quality for quantity in exhibition cases.
9. So far as practical, shelves should not be used.
10. Danger from fire is too insignificant to be given serious consideration.
11. The external finish of cases should be in the quieter colors—browns and grays.
12. No one ought to decide on types of museum cases without studying those at present installed in such museums as the Museum of Fine Arts in Boston, the Metropolitan Museum of Art, and the American Museum of Natural History in New York City, the Art Institute of Chicago, and the United States National Museum.

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B=*Abhandlung Berlin Museum, Dresden.*
F=*Museum of Fine Arts, Boston. Communications to the Trustees.*
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P=*Proceedings Museums Association of Great Britain.*
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In the discussion following Mr. Madison's paper mention was made of the difficulty of obtaining plate glass free from a slightly purplish or greenish color. Mr. Madison thought that this point could be adequately covered by specifications calling for selected glass of the best quality.

In discussing the use of steel in museums Mr. Henry W. Kent of the Metropolitan Museum of Art spoke of the experience of the New York State Library in the Capitol fire, when it was found that books in steel cases suffered more than books in wooden cases. Those

on steel shelves were reduced to ashes, while those on wooden shelves were often very slightly injured even when the ends of the shelves had burned. He stated that many librarians have come to the opinion that our ideas about steel cases need revision. Mr. Kent also expressed his hope that museum cases never would be standardized to such an extent that there would be no pleasing variation in different museums or in the parts of one museum.

Mr. Henry L. Ward of the Milwaukee Public Museum spoke of the good effect obtained in his institution in a colonial village scene, in which most of the exhibit is installed in the interior of the reproduction of a colonial house, thus doing away with the necessity of any case. He felt that this was an ideal solution of the problem but one that was not always possible. Mr. Ward also discussed a number of points in the construction of cases for large mammals. He reported very successful experience in hinging large plate glass sashes at the top, even when the glass measures as much as seven feet in height by nine or ten feet in width.

Both Mr. Ward and Prof. William C. Mills of the Ohio Archeological Society discussed the insecurity of the usual types of locks used on museum cases. Both have lost valuable specimens through the failure of these locks to work properly, or through weakness in their construction.

Mr. Roy W. Miner, assistant curator of Invertebrate Zoology in the American Museum of Natural History, then presented a paper on "Index Labels," in which he discussed the problems involved in labeling clearly and attractively such complicated exhibits as the invertebrate groups in the American Museum. His solution of the problem was to depend largely upon outline drawings of parts of the exhibit with lines radiating from the objects to the labels printed about the margin. Mr. Miner's paper was received with much interest.

Mr. Dwight Franklin then presented the following paper:

A RECENT DEVELOPMENT IN MUSEUM GROUPS

The miniature museum group is at present in its infancy. We cannot say what ultimate possibilities it contains or in what line it may be successfully used. So far it has been confined almost exclusively to the literal representation of some ethnological facts.

The miniature group is generally associated in our minds with



MEDIEVAL BANQUET HALL GROUP, PREPARED BY DWIGHT FRANKLIN FOR THE METROPOLITAN MUSEUM OF ART



GROUP OF BEDCUINS ON THE SAHARA, PREPARED BY DWIGHT FRANKLIN FOR THE CHILDREN'S MUSEUM, BROCKLYN

the little models shown at exhibitions and health-crusade exhibits, which, while interesting, possess little if any artistic value and consequently are not fully effective. Or we think of the little groups of Indian villages, with figures two inches or so in height, which are really accessories to the dwellings. In these, the character of the country, the flora, and the climatic conditions are scarcely shown, and, since these factors are an important influence in the lives of the people, they should be portrayed just as the backgrounds of our bird groups picture the habitat.

During the last few years I have made a careful study of miniature groups in different parts of the country, as it offers a fascinating opportunity for experimenting along new lines. Three changes seem desirable:

First, to have the figures not smaller than six inches high. Most of the little figures are but two or three inches.

Second, to raise the figures to the level of the eye of the average person in order to give a more natural and intimate feeling. The importance of this point cannot, I feel, be overestimated. A step should be built in front of the group to allow little children to see from the same level as their elders, without having to be lifted up. This seems better than to use low cases where the grown-ups, if they wish to see the figures, must crawl around like quadrupeds.

Third, to view the group from one side and to use a background with artificial lighting. I should like to say right here, that we museum workers have much to learn in the way of effective lighting from the theatrical scenic artists, whose work is much more closely related to museum groups than may at first be realized. In fact, many of the scenes which so delight us at the play, might, with a few changes, be translated into charming museum groups. It is interesting to notice how the whole feeling of a group may be changed by throwing different colored lights on it and by increasing or decreasing the volume of light. A warm orange light thrown on a desert group, for example, gives a surprising feeling of heat, while a blue light on an arctic scene makes one quite chilly.

These qualities all tend to make a group more convincing. And why should we not stimulate the imagination and show an appreciation of the artistic possibilities presented by a subject? I am convinced that the public will learn more from groups presented in this way than in the more literal form. And it is, at times, perfectly legitimate to present the subject in a dramatic or even humorous manner, if, in so doing, you make your point clear.

Turning now to the possibilities of the miniature group, one finds an almost limitless range of subjects to which it seems admirably adapted. A few of these cases may be mentioned: Ethnology, of course; Archaeology (cave-men and cliff dwellers); Geography (much the same treatment as for ethnology); History (there are endless possibilities here); Paleontology and Geology (a group of Carboniferous vegetation with its fauna would appear like an enchanted forest, and Dinosaurs would make a weird group); Forestry (a series showing lumber camps, log jams, etc., would be most instructive); Zoology (showing the life history of large mammals). Industrial groups offer an almost unlimited field. Other subjects will readily suggest themselves and when the small amount of space occupied by miniature groups is considered, in contrast to life-sized ones, it will be seen that it is a solution of very many museum problems, particularly for institutions which are handicapped by lack of floor space. The necessary artificial lighting also makes them adaptable to dark corners.

I might add that the cases for groups with backgrounds are less expensive than those which are viewed from all sides, as only one sheet of glass is necessary.

The Association then took a recess of five minutes, after which Mr. William L. Fisher, assistant curator in the Philadelphia Museums, presented the following paper:

INSTALLATION OF INDUSTRIAL MATERIAL

In its very extensive educational work, the Philadelphia Commercial Museum has found exceedingly useful two different but supplementary kinds of exhibits. First, models, either life size or in miniature, showing industrial processes, and second, diagrammatic installations of industrial materials.

Both of these are very well illustrated in our Carbon Room, by the exhibits of petroleum and of coal.

We found it very difficult to make children realize the depth of an oil well. Therefore we built a miniature model, on the scale of one inch to fifty feet showing a part of the oil region near Pittsburgh, Pa., with several wells in sight.

The top of the model is a typical landscape, with farm and forest land, a small stream, and a railroad with a train of tank cars. The

oil derricks, which are less than an inch and a half high, are made of paper. Trees, houses, and fences are carefully built to scale, and the result is a very realistic bit of country.

The sides of the model show a geologic section of the earth to a depth of about twenty-five hundred feet. In this section the coal measures and the oil-bearing sands are correctly placed. The layers of sandstone and shale which intervene are partly diagrammatic. The wells are represented by fine black wires, laid in the bottoms of grooves cut into the sides of the model.

In another case, close beside this model, is a diagrammatic installation showing the distillation of petroleum. A large jar holds five gallons of Pennsylvania crude oil, and ribbons connect it with other jars containing the proper quantities of its principal distillates. In this way one can see at a glance that from twenty quarts of crude there are made four quarts of gasoline, five quarts of kerosene, one pound of paraffin wax, etc. Above and at one side of this diagram is a large installation of many commercial grades of petroleum products.

Another product that has been treated in the same manner is coal. The central portion of this exhibit consists of a model of a coal mine, copied rather freely from a mine of the Lehigh Coal and Navigation Company, at Coaldale, Pennsylvania.

This model is seven feet high, nine feet long, and about thirty inches wide. The scale used is one inch to ten feet.

The top of the model is a landscape, showing typical coal-mining country in the anthracite fields of northeastern Pennsylvania, with long ridges of hills separated by narrow trough-like valleys. On one of the hillsides is a little mining village. The houses for the miners diminish in size as the streets recede from the front of the model, thus giving a very realistic idea of perspective.

The background of the case is an oil painting which carries the picture back and gives the effect of a view over many miles of country.

Near the stream stands the coal breaker with a train of cars on the railroad track waiting for their loads. Nearby is the power house with its tall chimneys. From this central station power is delivered to work the elevator in the shaft, to regulate the air supply by means of the fans, and to furnish electricity for light and power.

There is an opening in the side of the hill where cars enter the mine on the upper level. Above it stand two fan houses of different types.

The vertical front of the model shows a geologic section with

five coal measures between layers of shale and sandstone. This illustrates very clearly the characteristic folding of the strata under the synclinal valley.

The mine shaft is shown in section on the front of the model. Two mine cars are on the cages and the baling tank for removing water from the mine occupies a separate section of the shaft.

The actual work of digging coal is shown in four different sections in the mine. It was necessary, in order to show the workings, to break out the rock arbitrarily and make large openings in the model, which do not exist in the actual mine. In these four openings are modeled the coal seams with different methods of opening and working breasts. The tunnels and gangways are only one inch in height, but in them are laid the tracks on which stand miniature mine cars, drawn by mules. The tiny figures of the miners were a difficult problem in model making, but it was successfully solved.

In another case, a small part of one breast in the mine is shown full size. Here a life-size figure of a miner is at work on real coal, with tools that actually have been used in a mine.

Like our other models, these form the center around which is grouped a collection of coal from many parts of the world, and a large diagrammatic installation of the products of soft coal distillation.

There has been no attempt to make the series of coal-tar products complete, but we try to show the most important things and to carry the story far enough to include common things. For instance the naphthaline is shown as moth balls, the analine dyes include some skeins of colored silk, and the phenol group contains a cake of a much-advertised carbollic soap. A striking part of this collection is a box of colored candy alongside the jars containing the seven dyes whose use is permitted by the pure food law.

In this manner, both small-scale and full-size models are used as an attraction to arrest the attention of the visitor and so to get him to look at, and perhaps study, the collections of relatively uninteresting things. Because of their sameness things like a collection of coal or of jars of oil, though having great teaching value, are not particularly attractive. In the diagrammatic exhibits the specimens are connected by ribbons bearing small white arrows, which show the different steps in the manufacture of commercial products so clearly that an intelligent visitor can understand without the services of a museum guide.



MODEL OF COAL MINE IN THE PHILADELPHIA MUSEUMS

Mr. Frederick L. Lewton, curator of the division of textiles in the United States National Museum, presented the following paper:

THE INSTALLATION OF TEXTILE FABRICS

The installation of textile fabrics in a museum offers many opportunities for the development of latent abilities in the average museum assistant. This class of material also presents problems not usually encountered in handling other kinds of exhibits.

The proper display of textile fabrics has been given a great deal of attention by the dry-goods trade and by certain trade journals, and new forms of display fixtures are often brought out by the manufacturers catering to the retail trade.

Right here may be asked the question: Where can be drawn the line between the display of goods in a store window and the installation of the same class of materials in a museum? The larger department stores regard the dressing of their windows as an important part of the business of selling merchandise and consider the window dresser as a valuable and necessary assistant. The task set before the window dresser is a much simpler one than that encountered by the museum worker in handling the same material. The one has to arrange a pleasing picture which may bring a prospective purchaser across the street and into the store. The window dresser is chiefly concerned with symmetry, form, and color harmony and can place his objects where he will in order to secure a balance or symmetry of the scheme as a whole. The museum worker, while of necessity observing all these points, must needs place his objects in a definite order or sequence even at the sacrifice of symmetry and color harmony. An exhibit may be considered as having been successfully installed when founded on the corner stones of systematic classification, logical sequence, balanced form or symmetry, and color harmony. The museum can show objects or materials illustrating the industrial arts in a manner distinctive from that used in mercantile establishments.

The plan of installation of a collection of textile fabrics would of necessity depend upon the general plan and scope of the museum undertaking the project. Not only the scheme of classification but the type of installation fixtures and general methods of display to be used would differ in a museum of art from those employed in an ethnological museum or one emphasizing the technological stand-

point of the industrial arts. In the art museum fabrics are displayed primarily for the designs used in their ornamentation and the specimens may be considered as carrying out a motif by means of interlacing threads instead of the employment of color media on paper, canvas, or wood.

The ethnological museum is concerned with textiles as showing the growth and development of a primitive craft among different races of men. Here, as in the case of the art museum, the design is of more importance than the weave structure or the use of the fabric after it has been completed and ornamented.

In planning and installing an exhibition of textiles, a museum of industrial arts would naturally concern itself with questions of structure and use before considering those having to do with the weaves of the fabrics or the designs or motifs used in ornamenting the specimens to be shown.

In a museum where the use of the articles to be displayed is of importance when considering their proper classification and arrangement, the type of installation which best brings out the qualities and purposes for which the article was made should be adopted. Where the design is to be emphasized, the method of installation used to display tapestries, brocades, satins, velvets, or ribbons may be one and the same. But where it is desired to bring out the best qualities of the fabrics and to suggest uses of the material exhibited, a different type of installation could very well be used for each one of the textiles just named, if they are to be shown to the best advantage. The tapestries and brocades would be hung flat against the wall, the satins puffed or hung in soft folds to reflect the light, the velvet hung in deep folds so as to display the shadows when looking directly into the pile, and the ribbons would naturally be shown in loops, bows, or waving lines. Veilings, nets, and gauzes show best when draped over background fabrics of some contrasting shade. The beauty of crepes, chiffons, and other soft clinging fabrics can be brought out by hanging in curved lines, while stiffer fabrics, like taffetas and satins, look better when fastened in broad radiating pleats. Curtains and draperies when shown as specimens in a museum should be hung the same way as such fabrics are hung when in regular use.

At the National Museum we have found the ordinary T-stand of wood or brass to be of great assistance in fabric installation. A stand with arms curving upward instead of forming a straight bar enables the fabric easily to be arranged in soft folds, while a short

pedestal with a square, bevel-edge top permits the showing of short lengths in an effective manner. The dimensions of these fixtures would depend, of course, upon the size and style of case used and the length of the fabric specimen chosen as the unit.

Dr. Walter Hough, curator of ethnology in the United States National Museum, presented the following paper:

INSTALLATION OF ETHNOLOGICAL MATERIAL

The Smithsonian Institution, founded seventy years ago, became almost unwittingly the progenitor of the National Museum. In connection with the work of the Institution, collections accrued from the surveys of the government, and from expeditions of the navy, army, and other branches of the service, bringing in more and more materials until the burden compelled the founding of a museum supported by appropriations of Congress. During the secretaryship of Prof. Spencer F. Baird successful results were attained through instructing members of exploring parties as to the needs of the museum and by furnishing means for the acquirement of material. This was very easy during the first period and has become increasingly difficult for a number of years. The leveling power of modern intercourse spares no tribe or nation and in a short period native arts become a tradition.

Coincident with the efforts of the museums to increase their stores were the labors of the private collector in like fields. To the private collector as a class all honor. In many instances his labor of love has saved the day, preserving specimens to the time of their inevitable repose in museums. Collection of one thing or another is an irresistible human instinct. A list of collectors' so-called fads makes interesting reading. The museums of today lean toward private collections that can now only supply their needs and they hope that these collections will finally become an offering, a tribute to public spirit. A notable instance of private scientific collecting is the work of Dr. W. L. Abbott, who, taking the East Indies as his field, has sent in to the museum more than seven thousand specimens of ethnology accurately identified, and perhaps as many more of biology.

Most museums that have a considerable history run true to form as to the accretion of material, but we realize that the results are

far from ideal. Collections are scattered, unscientifically made, and the whole is lopsided, entailing infinite labor to future workers. The ethnological collections of the National Museum as you know were compressed in various halls of the older building or packed away in storage till relief should come. When the new natural history building was completed and ethnology had its first opportunity to expand, it was a source of satisfaction to find that the gleanings of more than seventy years would illustrate the arts and industries of the typical tribes and areas of the world.

It was decided to display the collections geographically by ethnic units, but with open arrangement. As a preliminary, the collections were studied to determine sizes and other characters of specimens, and standard cases were built to accommodate the various classes. The number of cases was fixed by the architectural features of the halls and they were confined to as few varieties as possible in order to secure symmetry of arrangement. The cases were fitted with open shelves, diaphragms, and shelves on diaphragms, and before the window spaces cases were furnished with storage bases. The unit of exhibit comprises a family-group case showing the physical characters of the race, costume, domestic arts, etc.; a house group showing architecture, village industries, etc.; and cases exhibiting textiles, pottery, and other products of material culture. Single figures are also used as illustrations of races, and accompanying the exhibit are transparencies and other pictorial material, as well as large models of pueblos, etc. In some instances it has been possible to show world-range series, as baskets, and in the course of time other series may be developed. Cases containing synoptic series showing the development of invention form an attractive and educational section of the exhibit. A general descriptive label is placed in each case and each specimen is accompanied with a label of the briefest character giving the name, location, and collector. This is believed to be good practice, conserving the visitors' time and energy.

Your reader gladly sinks whatever he has done in presenting the national ethnological collections in the respect and admiration he has for the directive ability of Prof. W. H. Holmes, who among his many qualifications is a master of museum science. The anthropological exhibit of the museum seeks to attain the ideal of Holmes and of those associated with him and that is to tell the story, to tell it at once, and in the most attractive manner. It is believed that an exhibit is valuable as much for its omissions as for its inclusions.

The chief idea of an exhibit is not quantity but perspicuity. It must be attractive and present pictures to the mind. It fails if it is long and dull with too much impedimenta. The museum is a place of impressions. A museum is not a place for a studious grind but a temple of the Muses where knowledge may be acquired through a gratified application of the higher senses.

If the exhibit of ethnology in the National Museum attains its object of conveying clear impressions of the variety of human arts among the races of the world in their various environments it may be termed a success. How far it falls away from this striving it is your duty to make known in order that fellow-workers may profit by your counsel and experience.

Dr. A. R. Crook, curator of the Illinois State Museum, Springfield, presented the following paper:

SOME SUGGESTIONS FOR A FORESTRY EXHIBIT

The records of attendance of a dozen of our leading museums show about five million visitors annually. If only one million more visit the six hundred remaining museums the total of annual museum attendance amounts to at least six million.

On the other hand all our national parks and forest reserves together are not visited by much more than a million people annually. It therefore appears that museums could become effective bureaus of publicity for certain phases of the work which is being so skilfully done by the United States forestry service because six people visit the museums while one person visits the forests.

In our museum meetings as well as in other places attention has often been called to the necessity of educating the public to conserve natural resources. The forestry service is a pioneer and leading exponent of this work and museums can lend no inconsiderable aid in advancing the cause.

In speaking on this subject I do so not "with authority but as a scribe." My ideas may be tainted with geology. But since that science encompasses the earth and forests simply spread over the surface, we may really be getting down to rock bottom when speaking from the view point of a museum geologist. Further I note that an archeologist, Harlan I. Smith,¹ has already spoken suggestively

¹ *American Lumberman*, February 26, 1916, p. 28.

on a different aspect of the subject. The dendrologists are at liberty to reply in kind.

A comprehensive collection of the trunks, foliage, and fruits of trees furnishes the fundamentals of a forestry exhibit. Next, it is advantageous to show the geography, ecology, and life history of trees. Then, especially in a popular museum, space is usually given to the uses to which the various trees are put as sources of lumber, textiles, paper, chemicals, drugs, etc.

These different aspects of forestry are presented in various museums, but I know of no place where a section is set aside to illustrate the work which the United States Forest Service is doing to save existing forests and to start new ones, as well as to conserve forest products. If attention were skilfully directed to this work in museums several million people would have opportunity every year to learn valuable lessons and it would not be long before such knowledge would become common property. We would not have to wait till the tourist reached the park to educate him in forest preservation. It would be easier also to reach the native inhabitant. Consequently the public generally would be more inclined to join the ranks of the defenders of nature's forest treasury—a kind of "preparedness movement" in which we may all agree.

The work of the Forest Service has some features which are sufficiently spectacular to arouse the dulled sensibilities of many a tired person who seeks entertainment of the choicest sort in a museum. This work could be shown in a special section by many exhibits. The kind of materials might well be outlined by a committee composed of representatives of the Forest Service and of museums. At the Illinois State Museum, for example, I should be glad to have full-sized samples of the posters and signs used by the Forest Service—the present courteous signs as well as the more crude commands of former days. "Break your match in two before throwing it away." "You are careful with fire, help others to be so too," etc. Also, it would be desirable to have models or full-sized figures of a forest ranger with full equipment, samples of signaling apparatus, fire fighting tools, tent, etc.—in short, such things as illustrate the life and valuable work which these men are performing. Photographs, transparencies, and maps would be of assistance.

Then there is the great list of materials which show the economic use of trees, their waste products, etc. No doubt the Forest Service could furnish some of these materials without charge, could aid in

obtaining other things from manufacturers, could prepare still others at a small cost, and by working in connection with museums could contribute practically to the advance of ideas so vital to the welfare of the people.

In the discussion following Dr. Crook's paper Mr. George deS. Canavarro, assistant curator of wood technology in the United States National Museum, spoke briefly of the work in his department. This includes exhibits to illustrate the utilization of domestic and imported woods and their by-products. The work is being done largely in cooperation with lumber associations and manufacturers who furnish the materials. It is proposed to use specimens of full size wherever possible. Mr. Canavarro expressed his desire to illustrate the work of the Forest Service by the use of models, showing forestry methods as used in the national forests.

Miss Eloise Gerry of the committee on museum exhibits in the Forest Products Laboratory at Madison, Wis., spoke briefly of the exhibition work in the Forest Products Laboratory.

The Association then adjourned for luncheon.

The afternoon was occupied by a joint session with the American Federation of Arts. In the evening the Regents and Secretary of the Smithsonian Institution tendered a reception to the members of the American Association of Museums and of the American Federation of Arts.

SESSION OF THURSDAY, MAY 18

Morning

The morning session was called to order by President Farrington.

Prof. Homer R. Dill, director of the museum exhibit of vertebrates, State University of Iowa, presented the following paper:

THE CORRELATION OF ART AND SCIENCE IN THE MUSEUM

What is it that makes the museum a success? I believe this question may be satisfactorily answered by a careful study of the people who visit museums. Go to some good museum and stroll quietly about among the groups of spectators and listen to their re-

marks; note carefully the types of exhibits that attract their attention, occasion their comment, and hold their interest. If you are interested and wish to follow up your investigation, go again and as often as you are able. You may thereby get some suggestions for building a museum for the public that never would occur to you otherwise. If you are connected with a museum and have been rash enough to make exhibits of your own it is possible that your pet ideas may receive a distinct shock from the frank criticism of some innocent spectator. Nevertheless, heed well what you may hear, for it is the impression that an exhibit makes on the spectator that counts. No matter how well a group is executed, if it does not tell this spectator the story it was designed to tell, it is a failure.

I remember well my visit to a certain museum where there is an anthropological exhibit. In one of the groups an Indian is represented drilling ivory, using his bow and a piece of metal for the purpose, while close at hand his squaw is engaged in tanning a skin. The group was interesting, and, to my mind, there was no question as to what the Indians were doing. As I was about to leave the exhibit, however, a young lady stopped directly behind me and remarked, "Oh, see the Indian fiddling while his wife is getting supper." After that remark it was obvious that the impression made by the group was misleading. One of the museum attendants informed me later that he had heard people say the same thing a number of times and this despite the fact that the group was well labeled. Labels, we must remember, are only secondary, and are seldom read unless the spectator's interest has first been engaged by the exhibit.

True it is that the public will ask foolish questions and make absurd remarks. All of these, however, should be duly considered. The exhibitor, keeping in mind the fact that his work is to be seen through the eyes of the public and that many things clear to his mind, or to the minds of others in the same work, may not be at all clear to those whom he would instruct by means of his exhibits.

Art students often visit our museum for the purpose of drawing and designing from the mounted specimens. One young lady, a college senior, asked me how we managed to kill the mammals and birds in just the positions we wanted them in for our exhibits. On another occasion we had placed a miniature model of a bison group in the large case that was to be used for the group itself when finished, stating the facts plainly on a label. During the few days that the model was on exhibition a number of people remarked that they did not see why we used such a large case for such a tiny model.

If it is your fortune to have a competitor, listen to his criticisms, even though they be bitter, for he will seek out every fault and point out much that would be overlooked by a more kindly critic. In short, let us have that sense of the value of criticism which prompts the successful moving-picture actor to drop into some theater to see himself on the screen and hear what people have to say about him.

During a visit to the Panama Pacific Exposition in San Francisco, I had an experience which verified a thing that for many years I have believed to be one of the most important features in exhibit work. The first day of my visit found me in the Agricultural Hall standing before an elk group mounted by Mr. James Clark. As I was admiring the work I noticed a dignified old gentleman, of the Oliver Wendell Holmes type, standing nearby. He remarked that it was a fine piece of work. Two days later I was again in the same hall and almost unconsciously I worked my way around to the elk group when to my surprise I found my friend of the previous visit. Smiling he said, "I have interests that bring me to this building, and while I am here I often drop over to admire these animals. Although I know nothing about taxidermy, I do love a work of art whether it is in the form of a picture, statuary, or mounted specimen." On the last day of my visit I once more passed through the Hall of Agriculture, and there by the elk group, among other spectators, was the old gentleman. I stopped to speak with him, and we agreed that it was the art in the group that made it worth seeing many times.

The same spirit was apparent, on a broader scale, among the great crowds of people who came to the exposition to see the sights. The Joy Zone did not attract the largest number of people, nor were the state exhibits in the buildings overcrowded. It was the esthetic, the beautiful, the artistic, that caught and held the masses. They strolled about the courts admiring the architecture, the beautiful flowers, the colors, and the good music. Twenty, or even fifteen years ago such conditions may not have existed, but I believe that the average intelligent person who visited the great exhibit last summer will say that, aside from any special thing in which he may have been interested, it was the whole exhibit in its artistic aspect that made the most favorable impression.

It is true that we cannot divide the public into those classes which do, and those which do not, appreciate art. Among the educated people we often find individuals who are entirely lacking in this respect. This is particularly true of individuals who have specialized

along scientific lines. On the other hand, we occasionally find, in the most common families, individuals who are artistic and who, in so far as their opportunities admit, are appreciative of art.

The following experience convinces me that even the savage may have latent in him some real esthetic instinct. At one time it was my good fortune to know an old Indian guide named Pete. One day I received a letter from a friend, asking me to see if I could engage Pete as a guide for a hunting party, and with him make a canoe trip of fifty miles and join the company. It was on this occasion that I really got acquainted with Pete. The first day was quite uneventful. Pete seldom talked. I remember my pleasure in watching the graceful, rhythmic play of the guide's muscles as our canoe glided along, the silence broken only by the regular "put put" of our paddle blades as they cut the water. About sun-down we made camp at a sharp bend in the stream, a site which afforded an unusual view of nearly a mile of mirror-like water, bordered on either side by the rich reds and yellows of a Canadian autumn. As I sat by the camp-fire watching a flock of loons swim past, leaving a tiny ripple that soon melted from sight, and enjoying the beautiful picture, I happened to glance at Pete. He was sitting on the end of a log smoking, and apparently vacantly gazing out over the same scene. "What you see, Pete?" I asked. "Me like to see um nice woods, nice water, all same me like to chase um deer, shoot um deer, eat um deer," was his reply. I understood. Pete loved the esthetic, as well as the hunt that meant a day's sport and a good square meal.

The next day we came to a carry, where Pete informed me that by taking the canoe and our baggage on our shoulders and making an overland trip of a mile, we could save many miles of paddling. So we proceeded through the crisp morning air and at noon we stopped in a hard-wood grove to eat our lunch. The stillness in this grove was oppressive. There was not a sound, until all at once from some distant thicket there came to our ears the clear flute-like notes of a hermit thrush. Pete heard it and a soft smile spread over his wrinkled, copper-colored face as he remarked, "Um bird, he hain't got no cold."

What had been this man's experience that had caused the veil to be lifted, even though slightly, so that this glint of light shone through? It is true that he or his ancestors knew nothing of books. Could it be the art that is in nature that had accomplished this?

Since the successful introduction of the habitat groups into some

of the larger museums, there has sprung up all over the country, a desire to have something of the kind in the smaller museums as well; and the work has been undertaken oftentimes without the slightest knowledge of how such work should be done, and in violation of all the laws of art and science. The result is that some of the most hideous productions have been placed on exhibition. There may be some excuse for a poorly mounted specimen in a serial collection, but there is no excuse for attempting to make habitat groups without some special knowledge of the work. No scientist can do the work without a supplementary knowledge of art; nor can an artist do anything worth while without scientific training in the technique of such work and a real knowledge of the subject to be handled. Beautiful pictures painted from fancy have no more value in a museum than have inartistic groups. Such exhibits ought not to be tolerated for many reasons. They have no educational value; they fill up space that might be used for something worth while; they often waste rare specimens which cannot be replaced, and which on account of improper treatment eventually go to pieces.

No intelligent person questions the importance of having a museum on a scientific basis. The information propagated by a museum should be absolutely dependable. Every setting for a group should tell a true story. A museum, however, can be strictly scientific, and yet fail utterly in its mission. The dreary, monotonous exhibits of the old-fashioned institutions have demonstrated this. The few people who went to the collections were fatigued by their visits. It is true that a part of the weariness caused by these old exhibits was physical, owing to the poor arrangement of the specimens which made it necessary for the spectator to get into many unnatural positions in order to see the objects and read the labels. I believe, however, that the major part of the fatigue and discomfort came from a mental rather than a physical strain.

A friend of mine who is a hunter and naturalist, once asked me to go with him through one of the older museums in the East. We met by appointment and spent the entire day looking over the various collections. When night came my friend asked to be excused from an engagement for that evening, saying that he believed he would go to bed as he was completely exhausted. Now this same friend on a previous occasion tramped miles with me in the woods, climbed trees for birds' eggs, crawled hundreds of yards flat on his stomach after young ducks, and yet when night came was not seriously fatigued.

In these days when all wild life is rapidly disappearing, when the specimens that we are placing in our exhibits may be the last of their kind to be secured, there is brought home to all of us the importance of permanently preserving them, of being sure that we have taken every precaution for their safety. In these days of experiment and investigation, I believe there is no excuse for a museum man who does not keep up with the times, and permanently and artistically preserve for future generations some of the phenomena of nature that will soon be gone forever.

In early days all kinds of museum material could be collected with little difficulty. Grease-burned skins, museum metal-disease, and other things that now try the soul of a curator were, if not unheard of, at least not generally known. Today the matter of permanently preserving museum material is one of the most serious things that confronts us. Any of the people who lived in the Middle West fifty years ago, can remember the great flocks of passenger pigeons. We have records to show that they were sold in the market for one cent each, and yet today it is impossible to find a perfect skin. How many pigeon skins could a man get if he were to make a standing offer of \$50 per skin? What would one have to pay for the skin of a California condor, an ivory-billed woodpecker, a heath hen, or a Carolina parakeet, and what would be the condition of these skins if he did succeed in finding them? Recently we succeeded in getting three passenger pigeons that had been mounted thirty to thirty-five years ago. These birds we remounted and placed in an exhibit in our museum. The skins were all badly grease-burned and the oldest went to pieces so that it was necessary to cement the twenty odd parts on a modeled form. From this one skin we took over an ounce of oil besides the fat that was removed by the use of alkalies. How many of us are sure that some of the valuable skins that we are putting into our collections today are not in the same condition? It is not an infrequent thing to have people ask how long these specimens that we are preparing today will last. We like to say, "Indefinitely," and in most cases we can. But the question, "How do you know?" has been a little difficult to answer satisfactorily. We know that the animal oils or fats in skins contain acids that slowly destroy the tissue. In our laboratory experiments we have demonstrated that these oils are readily turned to soap by the use of soda, borax, and talc. The soap and glycerine formed by the process are slightly antiseptic and are not injurious to the skin, but if so desired, they may be removed by washing the skins in water.

We believe that, after the oils have been removed, the skins should keep. Now for the proof!

It was during the summer of 1915 that I visited the Deseret Museum, Salt Lake City. In that interesting collection taken from the cliff-dweller's huts in southern Utah, I unexpectedly found the proof. This material to which I refer, is said by good authority to be from one thousand to fifteen hundred years old. Among the many notable things are two deer skins and the skin of a small blue-bird, all in a perfect state of preservation, even the feathers on the bird being intact. These specimens were dug from the loose soil forming the floors of the huts. This natural soil (according to geologists who are informed on the subject) contains crude soda, potash, and magnesium, and these ingredients have preserved the skins by their action on the oils, the process, although crude, being the same that we are using in our laboratory today. The cliff-dwelling Indian had no idea of permanently preserving the skins when he buried them there. We go to nature for our art; we scrutinize every little detail to make our exhibit a success; and now we find that she has set the pace even in the matter of preserving material. To answer further the question of how long organic material may be preserved we have but to visit the tar pits at Rancho La Brea and see the perfect skeletons two hundred thousand years old.

Is it not the correlation of art and science that will make the museum a success? A man who studies science to the exclusion of everything else is likely to become cold, unsympathetic, and narrow. The more he specializes the more he isolates himself from his fellows. The man who studies art and nothing else becomes insipid and impractical. But when we combine the two we get art that is useful and science that is broad; we get individuals who can do something worth while; we get the sort of art and science that men like Akeley, Knight, and Fuertes have combined in their work. I believe that such a union of art and science is bound to remove the objectionable features of the museum. When we have said good-bye to the T-perches, polished bases, the poorly-lighted cases and dingy walls; when we have given some thought to the decoration of the exhibit rooms; when we have museum men who do their work seriously and for the love of doing a thing well; when we send men into the field who have the power of keen observation, the technique, and the artistic ability faithfully to record the facts that can be obtained only from live animals in their natural environments—then we have

secured a means of conveying scientific facts to the public in adequate form. Such exhibits, combining with accurate, scientific information the best that there is in art, will reach not only the student but the layman as well. They will reach where books seldom go to the improving of men's minds and to helping them to higher conceptions and new appreciations of nature and her manifold and marvelous works.

In the discussion following Professor Dill's paper, Mr. Dwight Franklin spoke of the value of Japanese prints as a means of obtaining suggestions for the artistic grouping of specimens. Dr. A. R. Crook of the Illinois State Museum suggested that museum fatigue may be as much due to psychological as to physical causes. He then expressed his interest in Professor Dill's ideas with regard to the lasting qualities of specimens treated by modern methods. Several members participated in a brief discussion of the relative bleaching effect of diffused daylight and of various types of electric light.

Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts, Boston, then presented the following paper:

ADMINISTRATIVE ORGANIZATION AND ITS TWO PERTURBATIONS

Administrative organization differs from other kinds in establishing the relation of superior and subordinate. Runners might agree to relay a message, or porters combine to carry a trunk, without any being over or under any other; but in an administrative bureau authority exists in grades. *Administration* from the Latin *ad* (to) and *minus* (less) expresses subordination and implies superiority.

A superior is he who commands; a subordinate he who obeys. A superior issues orders; a subordinate executes them. But before an order can be given and executed there must be an agreement as to who shall give it and who execute it. Appointment precedes command. A channel of authority must be laid down before the authority can be exercised.

Administrative machinery is subject to two cardinal forms of derangement—one functional, one structural. Both are diversions of authority from its appointed channel; but the lighter affects authority only, the graver involves also appointment. The lighter

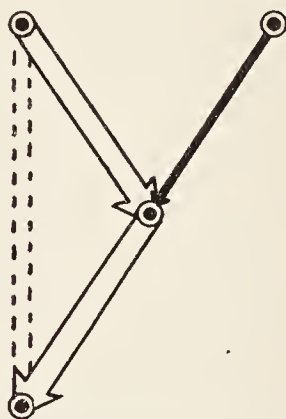
may accordingly be called maladministration, the graver disorganization.

In the accompanying illustration these two administrative ills are exhibited in two figures. The dotted circles represent official positions; the heavy black arrow represents appointment; the outline arrow represents the channel of authority or the orders which follow it. The dotted lines represent the vicious exercise of authority. This appears in the aspect of short circuits. In administrations of all kinds such divagation of authority is called "going over A's head" or "interference with A."

A joint meeting of two committees of certain trustees—a committee that managed their finances and a committee that managed their



MALADMINISTRATION



DISORGANIZATION

school—was once called to consider financing a school building. A building committee of the same trustees was already in existence. Soon after the conference convened, one of the members spoke as follows: "It seems to me that when the trustees have asked some gentlemen to attend to certain business for them, they ought not to step in and do a part of it themselves." All present assented, and after voting to invite the building committee to consider the question in hand, the joint meeting adjourned *sine die*. The action inadvertently and very naturally contemplated by the conferees was abandoned as soon as its nature as an administrative short circuit was clearly set before them.

This utterance of practical wisdom contained in germ the whole theory of administrative organization. Addressing the assembled gentlemen as if they were a meeting of the board of trustees itself,

the speaker admonished them that having appointed a subordinate body—namely, the building committee—to a certain duty, they were now preparing to go over that subordinate's head. The remark brings out the fundamental fact that *the sphere of a superior is his subordinate, not the subordinate's work*. The work is the sphere of the subordinate; whose appointment to it automatically *dis*-appoints others, his superior among the number. A superior cannot *do*; he can only *order done* by the proper subordinate. The lesson of the remark may be put into the form of the following general formula for normal administration:

Anything that is proper for a subordinate to do is improper for anyone else, including his superior.

The reason why an act in an allotted sphere is normally improper for anyone other than the person to whom it has been allotted is that it in so far forth nullifies the allotment. In particular, for a superior to allow anyone else to do the work of his subordinate is to appoint himself or the other for the time being in the subordinate's stead. It is, in a word, the supersession of the subordinate.

Two cases are possible: either the subordinate is the appointee of the person superseding him, or he is not. The two diagrams represent the two cases.

1. The subordinate is an appointee of the person superseding him. He may be superseded either for a cause in the conditions of the enterprise administered or without such cause. If for cause, the supersession is of the nature of punishment, not a normal condition but an attempt to correct abnormal conditions. If without cause, the supersession is again abnormal, being of the nature of a revision of judgment on the part of the appointing power. It is a change from the administrative structure once decided upon. It is an example of vacillation in the management of the organization. It is further a discouragement to the official temporarily relieved of his duty. His plans of work are set in abeyance from no fault of his own. It is therefore doubly a case of administrative inefficiency. In a word, it is *mal-administration*.

There is a case in which a superior may temporarily perform a subordinate's duty without superseding him. This is the case in which his duty is assumed in order to show him how to perform it. Such a temporary re-allotment of duty is a part of his instruction and not a part of his official work, unless indeed extended until it implies that the subordinate is slow at his lesson. In this event it takes on the punitive tinge.

2. The subordinate is not an appointee of the superior usurping his duty. Such action on the part of a superior constitutes a defiance of the authority making the appointment. It confronts this authority with a hostile organizing act. It is not a lapse, but a breakdown of the organization. In a word, it is *dis-organization*.

In a complex organization an official may be at once superior and subordinate; and his superior may himself be also a subordinate and his subordinates also superiors. Toward his superior the duty of any official is to execute the superior's orders and to abstain from executing those of anyone else. Toward his subordinates the duty of any official is to give orders to them and to them only—not even to himself in their stead. It is to be noted that in practice any personal relations between members of the same organization outside of the established channels of authority need to be watched lest they assume an official tinge and thereby tend to short circuit the organization and diminish its efficiency.

An official may be tempted to overstep the appointed channels of authority in both ways. As a superior he may find it easier to get something done within a subordinate's sphere by doing it himself or getting someone else to do it than to order it done by the subordinate. This is notably the case when there is not entire harmony of ideas between subordinate and superior. As a subordinate an officer may find it easier to do something within his sphere by obtaining for it the authority of someone else than his superior, who may not share his opinion of its importance. The authority of some power superior to both may be invoked. When the course in question is important, the temptation may be too strong to resist. Nevertheless, the duty of the forthputting official is plain and the corresponding right of the officer interfered with is plain; and any such short circuit gives a *prima facie* cause for complaint. But the sin of passing beyond superiors by no means besets subordinates as the sin of going over the heads of subordinates besets superiors. As usual in human affairs, the greater fault is with the stronger party.

Much administrative friction and many dangerous administrative blazes arising from these personal ambitions and differences might be avoided were official right and official duty clearly evident to those involved, as these diagrams present them.

Nevertheless, there may in any case be good reason for dissatisfaction either with the orders of a superior or the acts of a subordinate. A certain capacity to adjust itself may be assumed as proper to a

living organism. Some right of appeal from a superior and some right of the supersession of a subordinate is therefore a condition of the maintenance of any administrative organization in normal functioning.

The only appeal applicable to all cases is an appeal to the highest authority in the organization. Hence, the right of appeal to a monarch or to the presiding officer in non-political organizations is universally recognized as an inalienable privilege of any official, even the humblest. It is also a forcible but justifiable means by which an ultimate authority may be called upon for a review of the acts of a subordinate. Such occasional reviews are always wholesome and not infrequently necessary. At the same time an appeal is in effect a criticism of the officer appealed from and nearly or remotely suggests his removal.

A correlative right of supersession is also recognized when employed as a diplomatic means of inviting a subordinate to perform his duties better, if not to relinquish them. Like a signal for trumps at cards, an extraordinary act—in this case the performance by a superior, or by someone else designated by him, of a subordinate's duties—is used to attract the notice of the person concerned to a need that he can supply. The need here suggested is that of better work, perhaps by someone better qualified. An official should, therefore, always be alive to the possible meaning to him of a notable invasion of his sphere by a superior. Only two alternatives are possible: either the superior has given the subordinate just cause for complaint against him, or has taken a delicate method of signifying causes for complaint against the subordinate. If the subordinate suspects this dissatisfaction, let him bethink himself or offer his resignation, lest discipline or removal follow. If not, and if these diagrams show that he has cause to complain, let him enter his complaint promptly, discreetly, and resolutely.

On motion of Dr. A. R. Crook, the Association voted that a committee of three be appointed by the President to confer with the Forest Service as to methods by which the museums of the country may illustrate the work of the Forest Service. The President appointed on this committee Messrs. A. R. Crook, Boyd P. Rothrock, and Frank C. Baker.

The suggestion of Dr. Walter Hough that a symposium on the

preservation and care of museum specimens be arranged for the next meeting was received with favor.

The Association voted to request the Council to consider the preparation and distribution of a communication inviting members of museum corporations to become active members of the Association. The Council subsequently appointed Messrs. B. I. Gilman, N. H. Carpenter, and H. W. Kent as a special committee to prepare a plan for this work.

The Association voted that a committee of three be appointed by the President to cooperate with the American Federation of Arts. The President subsequently appointed on this committee Messrs. H. W. Kent, Walter Hough, and P. M. Rea.

An invitation to meet in New York City in 1917 was then presented on behalf of the American Museum of Natural History in New York. The Museum of Natural History and the Art Museum in Springfield, Mass., invited the Association to meet in that city in 1917. The Philadelphia Museums extended an invitation to meet in Philadelphia in 1917. Prof. Homer R. Dill expressed his desire to have the Association meet in Iowa City, and Dr. James E. Talmage reminded the Association that it had a standing invitation from the Deseret Museum in Salt Lake City. The Association passed a vote of thanks for these invitations and referred the decision as to the next place of meeting to the Council with power to act.

Mr. Charles L. Freer was then unanimously elected first Honorary President of the Association.¹

Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, reported for the information of the Association the incorporation under the laws of Massachusetts of a Settlements Museum Association having the following plan:

The Association purposes to erect a small fireproof building in a crowded section of Boston as the nucleus of a Children's Museum of Fine Arts which shall have, eventually, as many branches as are needed to make its collections accessible to all Boston children; to exhibit pictures and other works of art and of artistic workmanship; to open its doors freely to children; and to lend to individuals for purposes of study and aesthetic enjoyment, prints, textiles, designs and other art objects. It purposes to set the first children's museum in a garden where musical concerts may be given and, as soon as may be, to establish a school in which shall be taught drawing, design, modeling, fine handicraft and an appreci-

¹ On account of ill health Mr. Freer was unable to accept the office of Honorary President.

ation of the arts and of architecture. This school would prepare boys and girls to profit by the facilities for study already available at the Museum of Fine Arts and in other schools. It would aim to raise the standards of public taste and "make more useful to the community and to the State what has been so generously given for the benefit of the community."

Dr. W. P. Wilson of the Philadelphia Museums referred to the movement already under way in Philadelphia for the organization of a series of about ten museum extension centers. The first of these is located in one of the most densely populated manufacturing districts of Philadelphia. There is an auditorium accommodating about five hundred children at a time, with lantern and moving picture facilities as well as museum material to illustrate all phases of the commerce and geography studied in the schools. The Philadelphia Museums prepared the plans for this work and have furnished the moving picture outfit, lantern slides, and illustrative material. The instruction is given by the museum staff rather than by the schools since the curators in the museum are especially trained in this sort of work.

The following resolutions were unanimously adopted:

Resolved, That the hearty thanks of the American Association of Museums be tendered to the Regents and Secretary of the Smithsonian Institution for the reception tendered the Association; to the officers of the National Museum, the Corcoran Gallery of Art, and the Army Medical Museum; to the Director of the Bureau of Engraving and Printing and the Director of the Bureau of Standards; and to the local committee of the Association, and further be it

Resolved, That the appreciation of the Association be tendered to Mrs. William M. Ritter for the invitation to her home, and to Miss Leila Mechlin and the American Federation of Arts for extending to the Association an invitation to the Garden Party at the Octagon.

President Farrington then expressed the pleasure he had derived from his term as President, congratulated the Association on the bright future before it, and formally delivered the official gavel to the incoming President. President Howland then took the chair and spoke as follows:

President Howland.—"Dr. Farrington, ladies, and gentlemen: I appreciate very much the honor you have conferred upon me and I hope that you may not have made any mistake. I shall have warmly

at heart the best interests of the American Association of Museums and I beg of each and every one of you that cooperation which should come from a hearty desire to further the work of the Association. I also ask you to help those whom you have chosen to place in charge in carrying out a very difficult duty. I shall lean heavily upon all of you."

On motion the Association then adjourned sine die.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, a Vice-president, a Secretary and a Treasurer, and six other persons designated as Councilors, and these ten shall constitute the Council.

The President and the Vice-president shall each serve two years, and during the succeeding two years shall be ineligible for re-election to the same office. The Councilors shall each serve three years, and for one year thereafter shall be ineligible for re-election to the same office. Two Councilors shall retire annually and two Councilors shall be elected annually, except that, in the year of a presidential election, the retiring president shall become a Councilor and the Association shall elect one other Councilor.

Upon recommendation of the Council the Association may elect an Honorary President to hold office for the term of two years. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums dis-

cussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

RULINGS OF THE COUNCIL

The Secretary is authorized and directed to use his discretion in editing the *Proceedings* and in condensing discussions of business and of papers.

Members two years in arrears for dues are required to be dropped from the roll.

SUMMARY OF TREASURER'S REPORT FOR THE
YEAR ENDED MAY 15, 1916

Balance on hand, May 15, 1915.....	\$554.57
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RECEIPTS

Sustaining memberships.....	\$515.00	
Active memberships.....	717.00	
Associate memberships.....	21.00	
Sale of publications, reprints, etc.....	141.51	
		1,394.51
Total receipts.....		\$1,949.08

EXPENDITURES

Office expenses:		
Salaries.....	\$410.00	
Postage, printing, and petty cash.....	123.07	
Stationery and supplies.....	24.60	
Convention expenses:		
Printing, badges, etc.....	41.16	
Traveling expenses.....	300.00	
Reporting proceedings.....	90.00	
Publication of <i>Proceedings</i> :		
Printing.....	437.04	
Freight and carting.....	8.34	
Envelopes.....	8.25	
Storage book boxes.....	9.20	
		\$1,451.66
Total expenditures.....		\$1,451.66
Balance on hand, May 15, 1916.....		\$497.42

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¹ Died June 14, 1916

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Farrington, Mrs. Oliver C., Chicago, Ill.
Gerhard, W. J., Assistant Curator, Department of Zoology, Field Museum of Natural History, Chicago, Ill.
Gerry, Eloise, Committee on Museum Exhibits, Forest Products Laboratory, Madison, Wis.
Hutchinson, Susan A., Curator of Books, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
Kelton, A. Marie, Oakland Public Museum, Oakland, Cal.
Levy, Florence N., Editor, American Art Annual, New York City.
McIlvaine, Mabel, Research Worker, Chicago Historical Society, Chicago, Ill.
Morris, Frances, Assistant Curator, Department of Decorative Arts, Metropolitan Museum of Art, New York City.
Riggs, Elmer S., Assistant Curator, Department of Paleontology, Field Museum of Natural History, Chicago, Ill.
Sampson, Harold R., In charge Museum Case Department, Library Bureau, New York City.
Schiele, Rudolph M., Assistant, Philadelphia Museums, Philadelphia, Pa.
Slocum, Arthur W., Assistant Curator, Walker Museum, University of Chicago, Chicago, Ill.
Slocum, Laura, Jamaica Plain, Mass.
Smith, Huron H., R. 39, Ingalls, Indiana.
Stevens, A. Cora, Field Museum of Natural History, Chicago, Ill.
Willard, Geneva I., Art Institute of Chicago, Chicago, Ill.
Williams, Grace, Art Institute of Chicago, Chicago, Ill.

GEOGRAPHICAL DISTRIBUTION OF MEMBERS

ALABAMA

MONTGOMERY

Department of Archives and History (*non-member*):

Owen, Thomas M., Director (*active*).

UNIVERSITY:

Alabama University of Natural History (*sustaining*).

ARIZONA

TUCSON:

University of Arizona (*non-member*):

Cummings, Byron, Director of the Museum (*active*).

BRITISH COLUMBIA

VICTORIA:

Provincial Museum (*non-member*):

Kermode, Francis, Curator (*active*).

CALIFORNIA

BERKELEY:

University of California, Museum of Vertebrate Zoology (*non-member*):

Grinnell, Joseph, Director (*active*).

Swarth, Harry S., Curator of Birds (*active*).

Taylor, W. P., Curator of Mammals (*active*).

LOS ANGELES:

Museum of History, Science, and Art (*non-member*):

Daggett, Frank S., Director (*active*).

Fischer, Eugene J., Osteologist and Preparator (*active*).

The Southwest Museum (*non-member*):

Alliot, Hector, Curator (*active*).

OAKLAND:

Oakland Public Museum (*non-member*):

deVeer, Mrs. D. W., Assistant Curator (*active*).

Kelton, A. Marie (*associate*).

PALO ALTO:

Leland Stanford Junior Museum (*non-member*):

Peterson, Harry C., Director (*active*).

PIEDMONT:

Unattached:

Pollok, Theodora (*active*).

SAN FRANCISCO:

California Academy of Sciences (*sustaining*):

Dickerson, Roy E., Assistant Curator, Department of Invertebrate Paleontology (*associate*).

Evermann, Barton W., Director (*active*).

- Panama-Pacific International Exposition (*non-member*):
 Trask, John E. D., Chief, Department of Fine Arts (*active*).
 Private Museum of Mrs. A. B. Spreckels (*non-member*):
 Eberhardt, Robert G., In charge (*active*).
 University of California, Museum of Anthropology (*non-member*):
 Gifford, E. W., Associate Curator (*active*).
 Kroeber, Alfred L., Curator (*active*).
 Unattached:
 Cowan, Robert E., Historian (*active*).

CHILE

SANTIAGO:

- Museo Etnografico (*non-member*):
 Uhle, Max, Director (*active*).

COLORADO

BOULDER:

- University of Colorado (*non-member*):
 Henderson, Junius, Curator of Museum (*active*).

DENVER:

- Colorado Academy of Sciences (*non-member*):
 Bethel, Ellsworth, President (*active*).
 Colorado Museum of Natural History (*sustaining*):
 Reynolds, A. E., Vice-president (*active*).

CONNECTICUT

HARTFORD:

- Wadsworth Atheneum (*sustaining*):
 Pitkin, Albert Hastings, General Curator (*active*).

MIDDLETOWN:

- Wesleyan University Museum (*non-member*):
 Rice, William North (*active*).

NEW HAVEN:

- Yale University, Peabody Museum (*non-member*):
 Schuchert, Charles, Curator of Geology (*active*).
 MacCurdy, George Grant, Curator, Section of Anthropology (*active*).

WATERBURY:

- Mattatuck Historical Society (*sustaining*).

DISTRICT OF COLUMBIA

WASHINGTON:

- Army Medical Museum (*non-member*):
 Lamb, Daniel Smith, Pathologist (*active*).
 The Corcoran Gallery of Art (*sustaining*).
 Library of Congress (*non-member*):
 Berwick, William, Restorer of Documents (*active*).

National Gallery of Art (*non-member*):Holmes, William H., Curator (*active*).Smithsonian Institution (*sustaining*):Brockett, Paul, Assistant Librarian (*active*).Rathbun, Richard, Assistant Secretary (*active*).United States Department of Agriculture (*non-member*):Lamson-Scribner, Frank, Expert on Exhibits (*active*).United States National Museum (*non-member*):Bassler, R. S., Curator of Paleontology (*active*).Holmes, William H., Head Curator of Anthropology (*active*).Hough, Walter, Curator of Ethnology (*active*).Lewton, Frederick L., Curator, Division of Textiles (*active*).Rathbun, Richard, In charge of Museum (*active*).Ravenel, W. deC., Administrative Assistant (*active*).Stejneger, Leonhard, Head Curator, Department of Biology (*active*).

ENGLAND

BRISTOL:

Bristol Museum and Art Gallery (*non-member*):Bolton, Herbert, Director (*active*).

FLORIDA

GAINESVILLE:

State University of Florida (*non-member*):Van Hyning, T., Museum Director (*active*).

HAWAII

HONOLULU:

Bernice P. Bishop Museum (*sustaining*):Brigham, William T., Director (*active*).College of Hawaii (*non-member*):Bryan, William Alanson, Professor of Zoology (*active*).

ILLINOIS

CHICAGO:

The Art Institute of Chicago (*sustaining*):Bennett, Bessie, Curator of Decorative Arts and Assistant to the Director (*active*).Block, Maurice, Assistant (*active*).Carpenter, Newton H., Business Manager and Director pro tem (*active*).Hall, Mrs. Herman J., Museum Instructor (*active*).Hutchinson, Charles L., President (*active*).Oliver, Maude I. G., Editor of the Bulletin (*active*).Willard, Geneva I. (*associate*).Williams, Grace (*associate*).The Chicago Academy of Sciences (*sustaining*):Atwood, W. W., Director (*active*).Bergeron, Mrs. Eva Rowley, Artist and Photographer (*active*).Woodruff, Frank M., Curator and Ornithologist (*active*).

Chicago Historical Society (*non-member*):McIlvaine, Caroline M., Librarian and Curator (*active*).McIlvaine, Mabel, Research Worker (*associate*).Field Museum of Natural History (*sustaining*):Dahlgren, B. E., Modeler, Department of Botany (*active*).Farrington, Oliver C., Curator of Geology (*active*).Gerhard, W. J., Assistant Curator, Department of Zoology (*associate*).Harris, Norman W. (*life*).Millspaugh, Charles F., Curator of Botany (*active*).Nichols, Henry W., Assistant Curator of Geology (*active*).Osgood, Wilfred H., Assistant Curator of Mammalogy and Ornithology (*active*).Simms, S. C., Curator, N. W. Harris Public School Extension (*active*).Skiff, Frederick J. V., Director (*active*).Stevens, A. Cora (*associate*).Stoddard, Herbert L., Taxidermist, N. W. Harris Public School Extension (*active*).Riggs, Elmer S., Assistant Curator, Department of Paleontology (*associate*).Public Service Exhibit Bureau (*non-member*):Burchard, Edward L., Editor (*active*).University of Chicago, Walker Museum (*non-member*):Slocum, Arthur W., Assistant Curator (*associate*).

Unattached:

Driscoll, Lucy C. (*active*).Farrington, Mrs. Oliver C. (*associate*).

EVANSTON:

Northwestern University, Museum of the College of Liberal Arts (*sustaining*):Grant, U. S., Curator (*active*).

SPRINGFIELD:

Illinois State Museum of Natural History (*sustaining*):Crook, A. R., Curator (*life*).

URBANA:

University of Illinois, Museum of European Culture (*non-member*):Brooks, Neil C., Curator (*active*).University of Illinois, Museum of Natural History (*non-member*):Smith, Frank, Curator (*active*).

INDIA

BOMBAY:

Bombay Natural History Society (*non-member*):Kinnear, N. B. (*active*).

INDIANA

EARLHAM:

Earlham College, Joseph Moore Museum (*sustaining*).

INDIANAPOLIS:

Art Association of Indianapolis (*sustaining*).

INGALLS:

Unattached:

Smith, Huron H. (*associate*).

IOWA

CEDAR RAPIDS:

Coe College Museum (*non-member*):Bailey, B. H., Curator (*active*).

DAVENPORT:

Davenport Academy of Sciences (*sustaining*):Paarmann, J. H., Curator (*active*).Putnam, Edward K., Acting Director (*active*).

IOWA CITY:

State University of Iowa (*non-member*):Dill, Homer R., Director of Museum Exhibit of Vertebrates (*active*).Henderson, R. W., Assistant, Museum of Natural History (*active*).

IRELAND

DUBLIN:

National Museum of Science and Art (*non-member*):Plunkett, G. N. Count, Director (*active*).

LOUISIANA

NEW ORLEANS:

Isaac Delgado Museum of Art (*non-member*):Boyle, C. W., Curator (*active*).Louisiana State Museum (*non-member*):Bailey, Alfred M., Curator, Department of Birds and Mammals (*active*).Glenk, Robert, Director (*active*).

MAINE

AUGUSTA:

Maine State Museum (*non-member*):James, Thomas A., Curator (*active*).

MASSACHUSETTS

AMHERST:

Amherst College Museum (*non-member*):Emerson, B. K., In charge of Geology (*active*).

ANDOVER:

Phillips Academy, Department of Archeology (*sustaining*):Moorehead, Warren K., Curator (*active*).

BOSTON:

Arnold Arboretum (*sustaining*).Boston Society of Natural History (*sustaining*):Cushman, Joseph A., Assistant Curator (*active*).Jackson, Robert T., Assistant Curator, In charge of Paleontological Collections (*active*).Johnson, Charles W., Curator (*active*).

Children's Museum of Boston (*non-member*):Atwood, W. W., Trustee (*active*).Griffin, Delia Isabel, Director (*active*).Museum of Fine Arts (*sustaining*):Carrington, FitzRoy, Curator of Prints (*active*).Elliott, Huger, Supervisor of Educational Work (*active*).Fairbanks, Arthur, Director (*active*).Flint, Sarah G., Assistant in charge of Textiles (*active*).Gilman, Benj. Ives, Secretary (*active*).Gray, Morris, President (*active*).Paull, Florence V., Assistant in charge of Western Art (*active*).Scales, Mrs. Laura W. L., Museum Instructor (*active*).

Unattached:

Child, Katherine B. (*associate*).Clark, Lotta A. (*active*).Slocum, Anna D. (*active*).Slocum, Laura (*associate*).

CAMBRIDGE:

Harvard University, Botanical Museum (*non-member*):Goodale, George Lincoln, Honorary Curator (*active*).Harvard University, Fogg Art Museum (*non-member*):Forbes, Edward W., Director (*active*).Wood, Alice M., Assistant in charge of Photographs (*active*).Harvard University, Germanic Museum (*sustaining*).Harvard University, Museum of Comparative Zoology (*non-member*):Barbour, Thomas, Associate Curator of Reptiles and Amphibians (*active*).Henshaw, Samuel, Director (*life*).Raymond, Percy E. (*active*).Harvard University, Peabody Museum (*non-member*):Peabody, Charles, Curator of European Archeology (*active*).Willoughby, Charles C., Director (*active*).Harvard University, University Museum (*non-member*):Sayles, Robert W., Curator, Geological Department (*active*).

Unattached:

Jackson, Margaret T. (*active*).

LANCASTER:

Thayer Museum (*non-member*):Thayer, John E., Director (*life*).

SALEM:

The Essex Institute (*sustaining*):Dow, George Francis, Secretary and Curator (*active*).Peabody Museum (*sustaining*):Jenkins, L. W., Assistant Director (*active*).Morse, Albert P., Curator of Natural History (*active*).Morse, Edward S., Director (*active*).Robinson, John, Trustee (*active*).

SPRINGFIELD:

Springfield Art Museum (*sustaining*).Springfield Museum of Natural History (*sustaining*).

TUFTS COLLEGE:

- Tufts College (*non-member*):
Bumpus, Hermon C., President (*active*).

WELLESLEY:

- Wellesley College, Zoological Museum (*non-member*):
Morse, Albert P., Curator (*active*).

WORCESTER:

- Worcester Art Museum (*sustaining*).

MICHIGAN

ANN ARBOR:

- University of Michigan, Museum of Zoology (*non-member*):
Gaige, Mrs. Frederick M., Administrative Assistant (*active*).
Ruthven, Alexander G., Director (*active*).

BATTLE CREEK:

- Battle Creek Public School Museum (*sustaining*).

DETROIT:

- Detroit Museum of Art (*non-member*):
Burroughs, Clyde H., Secretary and Assistant Director (*active*).

GRAND RAPIDS:

- Grand Rapids Public Library (*non-member*):
Ranck, Samuel H., Librarian (*active*).
Kent Scientific Museum (*non-member*):
Sargent, Herbert E., Director (*active*).

HOUGHTON:

- Houghton Public Schools (*non-member*):
Doelle, John A., Superintendent (*active*).

LANSING:

- Michigan Historical Commission (*sustaining*).

MUSKEGON:

- Hackley Art Gallery (*non-member*):
Wyer, Raymond, Director (*active*).

MINNESOTA

MINNEAPOLIS:

- Minneapolis Institute of Arts (*sustaining*).

ST. PAUL:

- Minnesota Historical Society (*non-member*):
Buck, Solon J., Superintendent (*active*).
St. Paul Institute (*non-member*):
Sweeney, Arthur, Secretary (*active*).

MISSOURI

DOE RUN:

- Graves Private Museum (*non-member*):
Graves, F. P. (*life*).

KANSAS CITY:

- Daniel B. Dyer Museum (*non-member*):
Jacobs, Mrs. Ophelia, Curator (*active*).
Fine Arts Institute (*non-member*):
Sexton, Winifred, Secretary (*active*).

ST. LOUIS:

- Educational Museum (*non-member*):
Rathmann, Carl G., Director (*active*).

NEBRASKA**LINCOLN:**

- Nebraska State Historical Society (*non-member*):
Knotts, Mrs. Minnie P., Secretary (*active*).
State Museum (*non-member*):
Barbour, Erwin Hinckley, Curator (*active*).

OMAHA:

- Omaha Public Library and Museum (*non-member*):
Tobitt, Edith, Librarian (*active*).

NEW JERSEY**JERSEY CITY:**

- Unattached:
Lindberg, Thure H. (*active*).
Macdonald, Angus Snead (*active*).

NEWARK:

- Newark Museum Association (*sustaining*):
Dana, John Cotton, Secretary and Director (*active*).
Foster, Helen W., Assistant (*active*).
Kendall, Alice W., Assistant (*active*).
Winser, Beatrice, Assistant Secretary and Assistant Director (*active*).

PRINCETON:

- E. M. Museum (*non-member*):
Libbey, William, Director (*active*).
Museum of Princeton University (*non-member*):
Silvester, Charles F., Curator of Zoology (*active*).

TRENTON:

- New Jersey State Museum (*non-member*):
Connolly, Louise, Educational Adviser (*active*).

NEW YORK**ALBANY:**

- New York State Museum (*sustaining*):
Clarke, John M., Director (*active*).

BROOKLYN:

- The Brooklyn Museum, (*sustaining*):
Aitkin, Helen J., Assistant Curator, Division of Conchology (*active*).
Fox, William Henry, Director of Museums (*active*).
Goodyear, Wm. H., Curator of Fine Arts (*active*).

Hutchinson, Susan A., Curator of Books (*associate*).

Morris, Mrs. M. B., Docent (*active*).

Children's Museum, Brooklyn Institute of Arts and Sciences (*non-member*):

Gallup, Anna Billings, Curator (*active*).

BUFFALO:

Albright Art Gallery (*non-member*):

Sage, Cornelia Bentley, Director (*active*).

Buffalo Historical Society (*sustaining*).

Buffalo Society of Natural Sciences (*sustaining*):

Baker, Howard H., Vice-president (*active*).

Bennett, Leslie J., Board of Managers (*active*).

Bryant, William L., Custodian of Museum (*active*).

Butler, Edward H., Jr., Board of Managers (*active*).

Cummings, Carlos E., Secretary (*active*).

Howland, Henry R., Superintendent (*active*).

Langdon, Andrew, Vice-president (*active*).

Littell, Hardin H., Board of Managers (*active*).

Sidway, Ralph H., Board of Managers (*active*).

Smith, Lee H., President (*active*).

Stevens, Edgar B., Board of Managers (*active*).

Thorn, Alfred W., Board of Managers (*active*).

ELMIRA:

Arnot Art Gallery (*sustaining*).

NEW BRIGHTON:

Public Museum, Staten Island Association of Arts and Sciences (*non-member*):

Hollick, Arthur, Director (*active*).

Pollard, Agnes L., Curator (*active*).

NEW YORK CITY:

American Art Annual (*non-member*):

Levy, Florence N., Editor (*associate*).

American Museum of Natural History (*sustaining*):

Akeley, C. E., Taxidermist (*active*).

Allen, Joel A., Curator of Mammalogy and Ornithology (*active*).

Chapman, Frank M., Curator of Ornithology (*active*).

Clark, James L., Special Taxidermist (*active*).

Dean, Bashford, Curator Emeritus of Fishes and Reptiles (*active*).

Fisher, G. Clyde, Assistant Curator, Department of Public Education (*active*).

Hood, Ida Richardson, Assistant Librarian (*active*).

Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology (*active*).

Kunz, George F., Honorary Curator of Gems (*active*).

Lucas, Frederic A., Director (*active*).

Lucas, Jannette May, Assistant, Osborn Library of Vertebrate Paleontology (*active*).

Matthew, W. D., Curator of Vertebrate Paleontology (*active*).

Miner, Roy W., Assistant Curator of Invertebrate Zoology (*active*).

Osborn, Henry Fairfield, President (*life*).

Sherwood, George H., Assistant Secretary (*active*).

Thomas, Ann E., Assistant in Department of Public Education (*active*).

Tower, Ralph W., Curator of Books and Publications (*active*).

Wissler, Clark, Curator of Anthropology (*active*).

American Numismatic Society (*sustaining*):

Huntington, Archer M. (*patron*).

Wood, Howland, Curator (*active*).

Hispanic Society of America (*sustaining*):

Huntington, Archer M. (*patron*).

Metropolitan Museum of Art (*sustaining*):

Abbot, Edith R., Instructor (*active*).

Dean, Bashford, Curator of Arms and Armor (*active*).

de Forest, Robert W., President (*active*).

Howe, Winifred E., Assistant (*active*).

Kent, Henry W., Secretary (*active*).

Morris, Frances, Assistant Curator, Department of Decorative Arts (*associate*).

Robinson, Edward, Director (*active*).

Vaughan, Mrs. Agnes L., Instructor (*active*).

Museum of the Arts of Decoration, Cooper Union (*non-member*):

Hewitt, Eleanor G., Director (*active*).

New York Aquarium (*non-member*):

Townsend, Charles H., Director (*active*).

New York Botanical Garden (*sustaining*):

Britton, N. L., Director-in-chief (*active*).

Howe, Marshall A., Curator of Museums (*active*).

Small, John K., Head Curator of Museums and Herbarium (*active*).

New York Zoological Park (*non-member*):

Hornaday, William T., Director (*active*).

Russell Sage Foundation, Department of Surveys and Exhibits (*non-member*):

Routzahn, E. G., Associate Director (*active*).

Unattached:

Franklin, Dwight (*active*).

Kissell, Mary Lois (*active*).

Sampson, Harold R. (*associate*).

ROCHESTER:

Municipal Museum (*non-member*):

Putnam, Edward D., Curator (*active*).

University of Rochester (*non-member*):

Dodge, Charles Wright, Curator of Botany and Zoology (*active*).

Ward's Natural Science Establishment (*non-member*):

Ward, F. Hawley, Secretary (*active*).

SOUTHAMPTON:

Southampton Art Museum (*non-member*):

Parrish, Samuel L. (*life*).

SYRACUSE:

- New York State College of Forestry (*non-member*):
Adams, Charles C. (*active*).
Baker, Frank C., Zoological Investigator (*active*).
Syracuse Museum of Fine Arts (*non-member*):
Baxter, Mrs. Blanche W., Docent (*associate*).

NORTH CAROLINA

RALEIGH:

- North Carolina State Museum (*non-member*):
Adickes, Thomas W., Assistant Curator (*active*).
Brimley, Herbert H., Curator (*active*).

NOVA SCOTIA

HALIFAX:

- Provincial Museum (*non-member*):
Piers, Harry, Curator (*active*).

OHIO

CINCINNATI:

- Cincinnati Museum (*sustaining*):
Gest, J. H., Director (*active*).
University of Cincinnati (*non-member*):
Fenneman, N. M., Professor of Geology (*active*).
Unattached:
Maddox, Robert D. (*active*).

CLEVELAND:

- Board of Education (*non-member*):
McCornack, W. P., Architect (*active*).
Cleveland Museum of Art (*sustaining*):
Gibson, Mrs. Emily J., In charge of Educational Work (*active*).
Whiting, Frederic Allen, Director (*active*).

COLUMBUS:

- Ohio State Archeological and Historical Society (*non-member*):
Mills, William C., Curator and Librarian (*active*).

GREENVILLE:

- Museum of Carnegie Library (*non-member*):
Katzenberger, George A., Curator (*active*).

OBERLIN:

- Oberlin College, Zoological Museum (*non-member*):
Jones, Lynds, Curator (*active*).

TOLEDO:

- Toledo Museum of Art (*sustaining*):
Stevens, George W., Director (*active*).

ONTARIO

OTTAWA:

Geological Survey of Canada (*sustaining*):
Johnston, R. A. A., Mineralogist and Curator (*active*).
Smith, Harlan I., Archeologist (*active*).

Unattached:

Ami, Henry M., Strathcona Park (*active*).

TORONTO:

University of Toronto (*non-member*):
Montgomery, Henry, Head Curator of New General Museum (*active*).

OREGON

PORTLAND:

Portland Art Association (*non-member*):
Crocker, Anna B., Curator (*active*).

Unattached:

Failing, Henrietta H. (*active*).

PENNSYLVANIA

ARDMORE:

Unattached:

Townsend, Louis H., Osteologist (*active*).

ERIE:

Erie Public Museum (*non-member*):
Austin, Thomas L., Curator (*active*).

HARRISBURG:

Pennsylvania State Museum (*sustaining*):
Rothrock, Boyd P., Curator (*active*).
Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker (*active*).

PHILADELPHIA:

Academy of Natural Sciences of Philadelphia (*sustaining*):
Stone, Witmer, Curator (*active*).
Museum of the Grand Lodge of F. and A. M. of Pennsylvania (*sustaining*):
Sachse, Julius F., Curator and Librarian (*active*).
Pennsylvania Museum and School of Industrial Art (*sustaining*):
Barber, Edwin AtLee, Director of Museum (*active*).
The Philadelphia Museums (*sustaining*):
Connor, Thomas J., Assistant (*associate*).
Fisher, William L., Assistant Curator (*active*).
Schiele, Rudolph M., Assistant (*associate*).
Schoff, Wilfred H., Secretary and Assistant Treasurer (*active*).
Toothaker, Charles R., Curator (*active*).
Wilson, W. P., Director (*active*).
University of Pennsylvania, University Museum (*sustaining*):
Gordon, G. B., Director (*active*).
Houston, S. F., Trustee (*active*).
Wagner Free Institute of Science (*non-member*):
Rothermel, John G., Director (*active*).

The Wistar Institute of Anatomy (*non-member*):
 Greenman, Milton J., Director (*active*).
 Perine, Clara N., Assistant to Director (*active*).

Unattached:
 Foote, Warren M., Mineralogist (*active*).

PITTSBURGH:

Carnegie Institute, Department of Fine Arts (*non-member*):
 Beatty, John W., Director (*active*).
 Redd, May, Assistant in Educational Work (*active*).
 Carnegie Institute, Department of the Museum (*sustaining*):
 Agostini, Serafino, Assistant Preparator, Department of Paleontology
 (*active*).
 Atkinson, D. A., Custodian of Reptiles (*active*).
 Coggeshall, Arthur S., Preparator-in-chief, Department of Paleontology
 (*associate*).
 Coggeshall, Louis, Preparator, Department of Paleontology (*associate*).
 Courtney, Mrs. Addison, Assistant (*associate*).
 Eigenmann, Carl H., Curator of Ichthyology (*active*).
 Holland, W. J., Director (*life*).
 Hughes, D. C., Assistant, Section of Archeology and Ethnology (*active*).
 Jennings, Otto E., Curator of Botany (*active*).
 Kahl, Paul Hugo Isidor, Custodian, Section of Entomology (*active*).
 Ortmann, Arnold E., Curator of Invertebrate Zoology (*active*).
 Peterson, Olaf August, Field Collector and Preparator of Mammals and
 Birds (*active*).
 Prentice, Sydney, Artist and Illustrator (*active*).
 Santens, Remi H., Chief Preparator, Taxidermic Laboratory (*active*).
 Sterki, Victor, Assistant in Conchology (*active*).
 Stewart, Douglas, Assistant to Director (*active*).

READING:

Reading Public Museum (*non-member*):
 Mengel, Levi W., Director (*active*).

RHODE ISLAND

PROVIDENCE:

Park Museum (*sustaining*):
 Madison, H. L., Curator (*active*).
 Magoon, Eva W., Assistant to the Curator (*active*).
 Rhode Island School of Design (*non-member*):
 Rowe, Louis Earle, Director (*active*).

SASKATCHEWAN

REGINA:

Provincial Museum, Department of Agriculture (*sustaining*)

SOUTH CAROLINA

CHARLESTON:

The Charleston Museum (*sustaining*):

Kollock, Charles W., Secretary (*active*).

Rea, Paul M., Director (*active*).

Sharpe, Jesse, Treasurer (*active*).

Stoney, Samuel G., President (*active*).

Weeks, Laura L., Secretary to the Director and Assistant Treasurer (*active*).

TEXAS

AUSTIN:

Bureau of Economic Geology (*non-member*):

Udden, J. A., Director (*active*).

UTAH

SALT LAKE CITY:

Deseret Museum (*sustaining*):

Talmage, James E., Director (*life*).

VERMONT

ST. JOHNSBURY:

The Fairbanks Museum of Natural Science (*sustaining*).

WALES

CARDIFF:

National Museum of Wales (*non-member*):

Hoyle, William Evans, Director (*active*).

WASHINGTON

SEATTLE:

University of Washington, State Museum (*non-member*):

Albrecht, Clarence J., Director of Vertebrate Exhibits (*active*).

Hall, F. S., Curator (*active*).

WISCONSIN

MADISON:

Forest Products Laboratory (*non-member*):

Gerry, Eloise, Committee on Museum Exhibits (*associate*).

State Historical Museum of Wisconsin (*non-member*):

Brown, Charles E., Chief (*active*).

MILWAUKEE:

Public Museum of the City of Milwaukee (*sustaining*):

Barrett, S. A., Curator of Anthropology (*active*).

Brah, Bernard H., Assistant, Department of Anthropology (*active*).

Clowes, Herbert, Landscape Modeler (*life*).

Peaslee, Leon D., Curator of Education (*active*).

Plambeck, R., Photographer (*active*).

Pope, T. E. B., Associate Lecturer (*active*).

Rohde, Paul C., Assistant Taxidermist (*active*).

Shrosbree, George, Chief Taxidermist (*active*).

Ward, Henry L., Director (*active*).

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of the

American Association of Museums

Vol. XI

1917

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RECORDS OF THE TWELFTH ANNUAL MEETING
HELD IN NEW YORK CITY

MAY 21-23, 1917

CHARLESTON, S. C.

1917

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1917-1918

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PROCEEDINGS OF THE AMERICAN ASSOCIATION OF MUSEUMS, VOL. XI, 1917

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PROCEEDINGS
OF THE
Twelfth Annual Meeting
OF THE
American Association of Museums
HELD IN NEW YORK CITY
May 21-23, 1917

SESSION OF MONDAY, MAY 21

Morning

The opening session was called to order at the American Museum of Natural History by President Henry R. Howland, who welcomed the members as follows:

President Howland (Buffalo Society of Natural Sciences).—"In ancient days when that first truly American Association, the great League of the Iroquois, was in its prime; when the Ho-de-no-sau-nee, the People of the Long House, met in council, it was the custom of the orator who spoke the Ga-no-nyok, the address of welcome, first to congratulate his hearers that they had escaped the perils of long and toilsome journeys and had arrived safely at their place of meeting. Then, as was his duty, he wiped the sweat from their brows and plucked the thorns from their moccasins, and lastly offered thanks to the Great Spirit who had permitted them to gather together.

"Imitating his example, I felicitate you on your safe arrival here after what have been to many of you long and wearisome journeys, I, too, wipe the sweat from your brows and pluck the thorns from your moccasins and I, too, offer thanks that we have been permitted to meet once more together."

The Chair then introduced Dr. Henry Fairfield Osborn, president of the American Museum of Natural History.

Dr. Osborn.—"President Howland and members of the American Association of Museums: I desire to express on behalf of the trustees and staff of The American Museum of Natural History our very warm welcome. Through the arrangements made by Director Frederic A. Lucas and various members of our staff, we hope that this part of your meeting will be successful and advantageous and that you may find time between the stated papers to see some of the efforts that we have been making here recently along the line of museum evolution.

"It appeared to me very auspicious when your Secretary handed me registration number 77, a number with which every great event in my life seems to be connected. In the year 1877 I did the hardest kind of manual work in the Museum of Geology, Princeton, under Dr. Franklin C. Hill and Professor Arnold Guyot, which I now look back upon as the beginning of my museum training. The motto that Doctor Guyot gave me at that time, when I spoke to him of the slowness and difficulties of museum work, I have never forgotten, namely: 'Art is long and difficult; criticism is short and easy.' The sooner we learn that it is extremely difficult to meet and to overcome the successive problems which arise in museums, the better for our success in our profession. We enlist in a form of education which is, in fact, most difficult, since its ideals are to present visually the laws of nature and of art in such a way as both to educate and to create a strong impression on the mind of the visitor. In other words, museum folk are educators of a special type who seldom have an opportunity of speaking to their students; the expression of their thoughts and of their ideals is through the exhibits which they arrange. The successful museum teacher is the one who is able to teach without speaking, as nature teaches or as art teaches. He may speak only through labels on his specimens. It is but rarely that he has the opportunity of explaining his exhibits in the lecture hall. The museum profession is, then, by no means an easy one; it must enlist the greatest ability.

"The second personal word which I desire to add is that since 1877 I have had the privilege of watching the whole period of museum evolution, both in Europe and in this country. In 1878, under Sir William Flower of the Royal College of Surgeons, I watched that gifted man as a pioneer in many modern museum methods. He be-

gan by showing that bones might be made extremely interesting; that was before he was called to the directorship of the British Museum. Then, as director of the British Museum of Natural History, he began to introduce those remarkable methods of presenting principles of evolution and of zoology in the exhibits grouped around the great central hall of the British Museum. We owe to him, I believe, the training of Mrs. Mogridge, who came to this country from the British Museum and introduced in the American Museum the first of the elaborate bird habitat groups, which have now developed to such a remarkable extent in our habitat gallery. I watched the history of the Muséum au Jardin des Plantes in Paris, the mother of modern museums, and have seen there the relatively arrested condition of the grand institution built up by Cuvier, Saint-Hilaire, and Lamarck, as well as others of the great group of men who made the institution a center not only of museum exhibition, but of research, exploration, and publication, in fact, a model of all future museum development.

"Then in successive years my steps, as paleontologist, were taken over all the chief museums of Europe, including those of Spain, of Russia, of Germany, of France, of Austria, of Bohemia, and of England, all in various stages of operation and representing various types of administration. In traveling abroad one soon learns how *not* to conduct a museum, especially the fatal effect of what may be called the spirit of inhospitality, such as that which confronts you in many foreign museums where the visitor or even the scientific investigator is made to feel that he is somewhat of an intruder. In general, inhospitality of various kinds ranges throughout the museums of the Continent, and it is chiefly in the British Museum of London that one is made to feel entirely at home.

"Then, the marvelous development of the museums in this country has passed under review, the cooperation and interaction between these museums which have brought about finally the development of this Association of Museums which is destined to exert a great influence in the advance of the science of museum education.

"The world of beauty is the last which appears to be taking hold of our American museums of natural history. We are realizing that nature is more than truth; it is beauty as well. And to express the whole of nature the element of beauty must go hand in hand with the element of truth. To express beauty we need to have the artist and the sculptor to help us. One of the most interesting features

of museum evolution in recent years in this country is the bringing together of groups of men and women who are primarily artists to interpret the beauty of nature for us—sculptors like Mr. Carl E. Akeley, painters like Mr. Charles R. Knight, Mr. W. S. Taylor, Mr. Howard McCormick, Mr. Hobart Nichols, and many others. It is absolutely impossible to give the visitor the full impression of paleontology or of zoology unless the artist is at hand. Perhaps the most mysterious thing about nature is the omnipresence of beauty, and a museum which does not clothe its natural history with the aspect of beauty fails to give the visitor one of the most important impressions which is everywhere received by the traveler and the explorer. We attempt to bring to the visitor this or that corner of the world—the sea, the forest, the mountain—which forms the setting of the animal and of the plant.

“Finally, museums under present conditions are confronted with entirely new problems. What has the natural history museum to do when the minds, hearts, and thoughts of everyone turn not to peace but to war? When questions of health and of national defense are uppermost, has the museum any part to play? We believe that it has. Inasmuch as a knowledge of the laws of nature is more essential in times of stress and strain than at any other time, our foremost duty in the present crisis is to stand with all the other scientific men and to endeavor to diffuse as widely as possible a knowledge of all those laws and principles of nature which may be of service to our fellowmen, young and old.

“Every year museum education becomes larger instead of smaller, more important, more interesting, more a part of the common everyday life of the people, more vital to the nation, and more essential to national education.”

President Howland.—“Dr. Osborn, on behalf of the American Association of Museums I thank you most cordially for the hearty welcome you have brought to us. In past years, as now, we have been greatly indebted to the American Museum of Natural History for inspiration, for guidance, for help, for hearty cooperation with the intents and purposes of this Association. As you have said, the scope of museum work enlarges from year to year. The outlook changes and grows brighter. Through that mutual intercourse and mutual aid that we seek and find here, great deeds are done and great discoveries made.

“I was impressed by your remark about the inhospitable museum

of days gone by. I supposed there were no longer in existence such museums, but only the other day some very good friends of mine who had visited a large museum said: 'How strange it was! When we went in the door we were met by a custodian who said, "What do you want?"' (*Laughter.*) 'Well,' she said, 'it seemed very evident that my daughter and I wanted to see the museum. We told him so, and he said, "That will cost you twenty-five cents."' I thought that sort of thing had departed entirely from the minds of museum people.

"We are much indebted to you today, and we thank you most heartily for your welcome."

The roll of attendance was then called by the Assistant Secretary, and the following is the list of those present:

ROLL OF ATTENDANCE

- Miss Edith R. Abbot, Metropolitan Museum of Art, New York City.
Dr. Maude E. Abbott, Association of Medical Museums, Montreal, Canada.
Mr. T. W. Adickes, North Carolina State Museum, Raleigh, N. C.
Mrs. T. W. Adickes, Raleigh, N. C.
Miss Helen J. Aitkin, The Brooklyn Museum, Brooklyn, N. Y.
Mr. Carl E. Akeley, American Museum of Natural History, New York City.
Mr. Alfred M. Bailey, Louisiana State Museum, New Orleans, La.
Miss Euphemia Bakewell, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
Dr. Thomas Barbour, Museum of Comparative Zoology, Cambridge, Mass.
Mr. S. A. Barrett, Public Museum, Milwaukee, Wis.
Mr. Albert Blum, United Piece Dye Works, Lodi, N. J.
Mr. Joseph Breck, Minneapolis Institute of Arts, Minneapolis, Minn.
Mr. H. H. Brimley, North Carolina State Museum, Raleigh, N. C.
Dr. N. L. Britton, New York Botanical Garden, New York City.
Mr. Harold H. Brown, John Herron Art Institute, Indianapolis, Ind.
Mr. William L. Bryant, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mr. Clyde H. Burroughs, Detroit Museum of Art, Detroit, Mich.
Miss Lucy Peck Bush, Mattatuck Historical Society, Waterbury, Conn.
Mr. Newton H. Carpenter, Art Institute of Chicago, Chicago, Ill.
Miss Louise W. Case, Weston, Mass.
Miss Lotta A. Clark, Boston Normal School, Boston, Mass.
Mr. Noah T. Clarke, New York State Museum, Albany, N. Y.
Miss Louise Connolly, New Jersey State Museum, Trenton, N. J.
Mr. Thomas J. Connor, Philadelphia Museums, Philadelphia, Pa.
Mr. M. D. C. Crawford, American Museum of Natural History, New York City.
Dr. A. R. Crook, Illinois State Museum of Natural History, Springfield, Ill.
Mrs. A. R. Crook, Springfield, Ill.

- Miss Edith M. Crouthers, Newark Museum Association, Newark, N. J.
Dr. Carlos E. Cummings, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Dr. Joseph E. Cushman, Boston Society of Natural Sciences, Boston, Mass.
Mr. Robert W. deForest, Metropolitan Museum of Art, New York City.
Miss Mary C. Dickerson, American Museum of Natural History, New York City.
Prof. Homer R. Dill, State University of Iowa, Iowa City, Iowa.
Mrs. Jeannette M. Diven, Arnot Art Gallery, Elmira, N. Y.
Miss M. S. Draper, Children's Museum, Brooklyn, N. Y.
Mrs. S. S. Dunham, New York City.
Mr. George W. Eggers, Art Institute of Chicago, Chicago, Ill.
Dr. C. H. Eigenmann, Carnegie Museum, Pittsburgh, Pa.
Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.
Dr. G. Clyde Fisher, American Museum of Natural History, New York City.
Mr. William L. Fisher, Philadelphia Museums, Philadelphia, Pa.
Mr. Dwight Franklin, 1947 Broadway, New York City.
Mrs. Jean Dwight Franklin, New York City.
Miss Anna B. Gallup, Children's Museum, Brooklyn, N. Y.
Miss Marie E. Gaudette, Park Museum, Providence, R. I.
Mr. Frank Butler Gay, Wadsworth Atheneum, Hartford, Conn.
Miss Katherine Gibson, Cleveland Museum of Art, Cleveland, Ohio.
Mr. Benj. Ives Gilman, Museum of Fine Arts, Boston, Mass.
Mr. Robert Glenk, Louisiana State Museum, New Orleans, La.
Mr. George P. Goll, Philadelphia Museums, Philadelphia, Pa.
Miss Delia I. Griffin, Children's Museum, Boston, Mass.
Mr. L. E. Griffin, Carnegie Museum, Pittsburgh, Pa.
Mr. William Laurel Harris, 120 Central Park South, New York City.
Miss Adelaide Hasse, New York Public Library, 476 Fifth Avenue, New York City.
Mr. Charles F. Herm, American Museum of Natural History, New York City.
Mr. Frederick A. Hoffman, B. Altman & Co., New York City.
Dr. Arthur Hollick, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Dr. William T. Hornaday, New York Zoological Park, New York City.
Dr. Marshall A. Howe, New York Botanical Garden, New York City.
Miss Winifred E. Howe, Metropolitan Museum of Art, New York City.
Mr. Henry R. Howland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Miss Susan A. Hutchinson, The Brooklyn Museum, Brooklyn, N. Y.
Miss Margaret T. Jackson, Cambridge, Mass.
Mrs. William L. Jackson, Cambridge, Mass.
Mr. Charles W. Johnson, Boston Society of Natural History, Boston, Mass.
Mrs. Grace Pettis Johnson, Museum of Natural History, Springfield, Mass.
Miss A. E. Jones, Metropolitan Museum of Art, New York City.
Mr. Paul Hugo Isidor Kahl, Carnegie Museum, Pittsburgh, Pa.
Miss Alice W. Kendall, Newark Museum Association, Newark, N. J.
Mr. Henry W. Kent, Metropolitan Museum of Art, New York City.
Miss Mary Lois Kissell, New York City.
Miss Gertrude E. Koch, Newark Museum Association, Newark, N. J.
Dr. George F. Kunz, American Museum of Natural History, New York City.

- Miss Hazel M. Leach, Worcester Art Museum, Worcester, Mass.
Miss Florence N. Levy, Metropolitan Museum of Art, New York City.
Mr. Frederick L. Lewton, United States National Museum, Washington, D. C.
Mr. Thure H. Lindberg, Snead & Co. Iron Works, Jersey City, N. J.
Mr. Edward Lindsey, Warren Academy of Sciences, Warren, Pa.
Mr. G. A. Link, Jr., Carnegie Museum, Pittsburgh, Pa.
Mrs. G. A. Link, Jr., Pittsburgh, Pa.
Dr. Frederic A. Lucas, American Museum of Natural History, New York City.
Mr. Stephen B. Luce, University Museum, Philadelphia, Pa.
Prof. George Grant MacCurdy, Yale University Museum, New Haven, Conn.
Mr. H. P. Macomber, Society of Arts and Crafts, 2 Park Street, Boston, Mass.
Mr. Harold L. Madison, Park Museum, Providence, R. I.
Mrs. Harold L. Madison, Providence, R. I.
Miss Eva W. Magoon, Park Museum, Providence, R. I.
Miss Marion T. Meagher, New York City.
Mr. Levi W. Mengel, Reading Public Museum, Reading, Pa.
Prof. William C. Mills, Ohio State Archeological and Historical Society, Columbus, Ohio.
Mr. Roy W. Miner, American Museum of Natural History, New York City.
Miss Frances Morris, Metropolitan Museum of Art, New York City.
Mrs. Mary B. Morris, The Brooklyn Museum, Brooklyn, N. Y.
Mr. Sydney P. Noe, American Numismatic Society, New York City.
Dr. Henry F. Osborn, American Museum of Natural History, New York City.
Miss Helen C. Perry, New Jersey State Museum, Trenton, N. J.
Mr. O. A. Peterson, Carnegie Museum, Pittsburgh, Pa.
Mr. Albert Hastings Pitkin, Wadsworth Atheneum, Hartford, Conn.
Miss Agnes L. Pollard, Museum of Staten Island Association of Arts and Sciences, New Brighton, N. Y.
Mr. T. E. B. Pope, Public Museum, Milwaukee, Wis.
Mr. W. Frank Purdy, The Gorham Company, New York City.
Mr. Edward D. Putnam, Municipal Museum, Rochester, N. Y.
Mrs. Edward D. Putnam, Rochester, N. Y.
Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
Miss May Redd, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
Mrs. Maie D. Rindlaub, North Dakota Art Association, Fargo, N. D.
Mr. Edward Robinson, Metropolitan Museum of Art, New York City.
Mr. J. P. Rome, Art in Trades Club, 450 Fourth Avenue, New York City.
Mr. Boyd P. Rothrock, Pennsylvania State Museum, Harrisburg, Pa.
Mr. L. Earle Rowe, Rhode Island School of Design, Providence, R. I.
Miss Christine Ruth, Children's Museum, Brooklyn, N. Y.
Mr. Julius F. Sachse, Museum of Grand Lodge of F. and A. M., Philadelphia, Pa.
Mr. Harold R. Sampson, Library Bureau, New York City.
Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
Miss Helen E. Saunders, Newark Museum Association, Newark, N. J.
Mrs. Laura W. L. Scales, Museum of Fine Arts, Boston, Mass.
Mrs. John J. Schoonhoven, Brooklyn, N. Y.
Prof. Charles Schuchert, Peabody Museum, Yale University, New Haven, Conn.
Mr. Frank H. Severance, Buffalo Historical Society, Buffalo, N. Y.

Mr. George H. Sherwood, American Museum of Natural History, New York City.
Miss Anna D. Slocum, Jamaica Plain, Mass.
Mr. Douglas Stewart, Carnegie Museum, Pittsburgh, Pa.
Dr. James E. Talmage, Deseret Museum, Salt Lake, City, Utah.
Miss Ann E. Thomas, American Museum of Natural History, New York City.
Mr. Charles R. Toothaker, Philadelphia Museums, Philadelphia, Pa.
Dr. Charles W. Townsend, New York Aquarium, New York City.
Mrs. Schuyler Van Rensselaer, 9 West 10th Street, New York City.
Mrs. Agnes L. Vaughan, Metropolitan Museum of Art, New York City.
Miss Eleanor A. Wade, Springfield Art Museum, Springfield, Mass.
Mr. Henry L. Ward, Public Museum, Milwaukee, Wis.
Miss Laura L. Weeks, Charleston Museum, Charleston, S. C.
Mrs. Mary Day Lee Weisse, Children's Museum, Brooklyn, N. Y.
Miss Margaret E. White, Newark Museum Association, Newark, N. J.
Mr. Frederic A. Whiting, Cleveland Museum of Art, Cleveland, Ohio.
Mrs. Frederic A. Whiting, Cleveland Museum of Art, Cleveland, Ohio.
Mr. Herbert P. Whitlock, New York State Museum, Albany, N. Y.
Dr. W. P. Wilson, Philadelphia Museums, Philadelphia, Pa.
Miss Beatrice Winsor, Newark Museum Association, Newark, N. J.
Mr. Howland Wood, American Numismatic Society, New York City.

The report of the Secretary was presented as follows:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year ended May 15, 1917:

The *Proceedings* of the Washington meeting were published November 18, 1916, thus completing the tenth volume of the series.

At the Washington meeting the Association requested the Council to consider the preparation and distribution of a communication inviting members of museum corporations to become members of the Association. The Council subsequently appointed Messrs. Benj. Ives Gilman, Newton H. Carpenter, and Henry W. Kent as a special committee to prepare a plan for this work and to report to the Council. This committee subsequently recommended to the Council that before making an effort to obtain trustee members the Council should issue a general invitation to museums and museum officers to become Sustaining and Active Members respectively. The committee submitted a form of invitation to be used for this purpose. The Council approved the recommendations of the committee and directed the Secretary to issue the invitations. These invitations were accordingly sent to ninety-five museums and to one hundred and ten museum workers, and in response five Sustaining and eleven

Active Members have already been received. This is intended to be only the first step in a sustained effort to increase the membership of the Association.

There have been enrolled during the past year 11 Sustaining Members, 1 Life Member, 45 Active Members, and 10 Associate Members, as follows:

NEW MEMBERS

Sustaining Members

Alabama Museum of Natural History, University, Ala.
Arnot Art Gallery, Elmira, N. Y.
Chamberlain Memorial Museum, Three Oaks, Mich.
Fogg Art Museum, Harvard University, Cambridge, Mass.
New Jersey State Museum, Trenton, N. J.
Park Museum, Providence, R. I.
Peabody Museum of Natural History, Yale University, New Haven, Conn.
Randall Museum, Warren Academy of Sciences, Warren, Pa.
Rhode Island School of Design, Providence, R. I.
Springfield Museum of Natural History, Springfield, Mass.
The Thayer Museum, Lancaster, Mass.

Life Member

Dr. Henry Fairfield Osborn, President, American Museum of Natural History, New York City.

Active Members

Miss Edith R. Abbot, Instructor, Metropolitan Museum of Art, New York City.
Mr. Serafino Agostini, Assistant Preparator, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.
Mr. Howard H. Baker, Vice-president, Buffalo Society of Natural Sciences. Address: 598 Richmond Avenue, Buffalo, N. Y.
Mr. Harlan Hoge Ballard, Curator, Berkshire Athenaeum, Pittsfield, Mass.
Mr. Leslie J. Bennett, Board of Managers, Buffalo Society of Natural Sciences. Address: Austin Building, Buffalo, N. Y.
Miss Laura M. Bragg, Curator of Public Instruction, Charleston Museum, Charleston, S. C.
Mr. Joseph Breck, Director, Minneapolis Institute of Arts, Minneapolis, Minn.
Mr. Howard H. Butler, Jr., Board of Managers, Buffalo Society of Natural Sciences. Address: 672 Delaware Avenue, Buffalo, N. Y.
Mr. James L. Clark, Special Taxidermist, American Museum of Natural History, New York City.
Miss Louise Connolly, Educational Adviser, State Museum, Trenton, N. J.
Mr. P. H. Gadsden, President, Charleston Museum, Charleston, S. C.
Miss Marie E. Gaudette, Second Assistant to Director, Park Museum, Providence, R. I.
Mrs. Emily Gibson, In Charge of Educational Work, Cleveland Museum of Art, Cleveland, Ohio.

- Mr. R. W. Henderson, Assistant, Museum of Natural History, University of Iowa, Iowa City, Iowa. Address: 112 East Bloomington St.
- Prof. William H. Holmes, Head Curator of Anthropology, United States National Museum, Washington, D. C.
- Miss Winifred E. Howe, General Assistant, Metropolitan Museum of Art, New York City.
- Mrs. Minnie P. Knotts, Secretary, State Historical Society, Lincoln, Neb.
- Prof. Frank Lamson-Scribner, Expert on Exhibits, United States Department of Agriculture, Washington, D. C.
- Mr. Andrew Langdon, Vice-president, Buffalo Society of Natural Sciences. Address: 175 North Street, Buffalo, N. Y.
- Miss Hazel M. Leach, Instructor, Worcester Art Museum, Worcester, Mass.
- Mr. Hardin H. Littell, Board of Managers, Buffalo Society of Natural Sciences. Address: 137 Summer Street, Buffalo, N. Y.
- Mr. J. Arthur MacLean, Curator, Cleveland Museum of Art, Cleveland, Ohio.
- Mr. W. W. MacLean, Superintendent of Buildings and Grounds, Museum of Fine Arts, Boston, Mass.
- Mr. Frank Gair Macomber, Honorary Curator, Department of Western Art, Museum of Fine Arts, Boston, Mass.
- Mr. Barrington Moore, Assistant Curator, Department of Woods and Forestry, American Museum of Natural History, New York City.
- Mrs. Florence deZ. Morgan, Museum Assistant, School of American Archeology, Sante Fe, New Mexico.
- Miss Maude I. G. Oliver, Editor of the *Bulletin*, Art Institute of Chicago, Chicago, Ill.
- Mr. Edward C. Page, In charge Museum of History, State Normal School, DeKalb, Ill.
- Mr. Reginald Poland, Director, Denver Art Association, Denver, Colo.
- Mr. Frank J. Pool, Assistant Secretary and Registrar, Cleveland Museum of Art, Cleveland, Ohio.
- Mr. Sydney Prentice, Artist and Illustrator, Carnegie Museum, Pittsburgh, Pa.
- Miss May Redd, Assistant in Educational Work, Carnegie Institute, Department of Fine Arts, Pittsburgh, Pa.
- Mr. E. A. Ruggles, Assistant in charge of Sales Department, Cleveland Museum of Art, Cleveland, Ohio.
- Mrs. Laura W. L. Scales, Museum Instructor, Museum of Fine Arts, Boston, Mass.
- Mr. Ralph H. Sidway, Board of Managers, Buffalo Society of Natural Sciences. Address: 589 Delaware Avenue, Buffalo, N. Y.
- Dr. Lee H. Smith, President, Buffalo Society of Natural Sciences. Address: 663 Main Street, Buffalo, N. Y.
- Mr. L. L. Snyder, Assistant, Museum of Natural History, University of Iowa, Iowa City, Iowa. Address: 318 East Jefferson St.
- Mr. Edgar B. Stevens, Board of Managers, Buffalo Society of Natural Sciences. Address: 140 Lincoln Parkway, Buffalo, N. Y.
- Mr. Alfred W. Thorn, Board of Managers, Buffalo Society of Natural Sciences. Address: 445 Delaware Avenue, Buffalo, N. Y.
- Mr. Kojiro Tomita, Assistant Curator of Chinese and Japanese Art, Museum of Fine Arts, Boston, Mass.

- Mrs. Agnes L. Vaughan, Instructor, Metropolitan Museum of Art, New York City.
Mr. Herbert P. Whitlock, Curator of Minerals, New York State Museum, Albany, N. Y.
Miss Alice W. Wilcox, Director, Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
Miss Beatrice Winser, Assistant Director and Assistant Secretary, Newark Museum Association, Newark, N. J.
Mr. Frank Wood, Curator, Old Dartmouth Historical Society, New Bedford, Mass.

Associate Members

- Mrs. Blanche W. Baxter, Docent, Syracuse Museum of Fine Arts, Syracuse, N. Y.
Miss Katherine B. Child, School of Fine Arts and Crafts, 126 Massachusetts Avenue, Boston, Mass.
Mr. Louis Coggeshall, Preparator, Department of Vertebrate Paleontology, Carnegie Museum, Pittsburgh, Pa.
Mr. Thomas J. Connor, Curator, Philadelphia Museums, Philadelphia, Pa.
Miss Eloise Gerry, Committee on Museum Exhibits, Forest Products Laboratory, Madison, Wis.
Mr. George P. Goll, Assistant Curator, Philadelphia Museums, Philadelphia, Pa.
Miss Frances Morris, Assistant Curator, Department of Decorative Arts, Metropolitan Museum of Art, New York City.
Mr. Harold R. Sampson, In charge Museum Case Department, Library Bureau, New York City.
Mr. Rudolph M. Schiele, Assistant, Philadelphia Museums, Philadelphia, Pa.
Mr. Harold L. Wheeler, Librarian, School of Mines, Rolla, Mo.

The Association has lost by death four members. Mr. Norman W. Harris, founder of the N. W. Harris Public School Extension of the Field Museum of Natural History and a Life Member of the Association, died July 15, 1916. Dr. Edwin AtLee Barber, director of the Pennsylvania Museum and School of Industrial Art and a Charter Member of the Association, died December 12, 1916. Mr. Clarence S. Paine, secretary of the Nebraska State Historical Society and an Active Member of the Association, died June 14, 1916. Mrs. Emily G. Gibson, in charge of educational work at the Cleveland Museum of Art and an Active Member of the Association, died January 5, 1917.

Resignations have been received from five Sustaining Members, eight Active Members, and one Associate Member during the year. There have been dropped from the rolls for two years' delinquency of dues one Sustaining Member and fourteen Active Members. One Active Member has been transferred to Life Membership and

one to Associate Membership. The Association now numbers fifty-nine Sustaining, twelve Life, two hundred and seventy-two Active, and sixteen Associate Members. One Sustaining Member and nineteen Active Members are in arrears for dues for one year, and six Active Members for two years.

The American section of the International Association of Medical Museums held a meeting in New York on April 5, 1917. In response to an invitation, President Howland designated Mr. Roy W. Miner to attend this convention as the representative of the American Association of Museums. An invitation was also extended to Dr. Maude E. Abbott, secretary of the Association of Medical Museums, to attend our convention. It is hoped that this may be the beginning of helpful cooperation between these two organizations.

Respectfully submitted,

PAUL M. REA, *Secretary*.

The report of the Secretary was accepted and ordered incorporated in the *Proceedings*.

The Chair then recognized Mr. Albert H. Pitkin, curator of the Wadsworth Atheneum at Hartford, Connecticut, who paid the following tribute to Dr. Edwin AtLee Barber:

Mr. Pitkin.—"Edwin AtLee Barber, director of the Pennsylvania Museum and School of Industrial Art, beloved by many of you, well known by all of you, was born in Baltimore, August 13, 1851. He early removed to West Chester, Pa., and after a partial college education was appointed assistant naturalist on Hayden's survey of the territories. I think the only surviving companion on that survey is Professor Holmes of the National Museum in Washington. A year ago I had the privilege of being with Dr. Barber and Professor Holmes and of listening to some of their reminiscences. It was a charming experience, I assure you. Later Dr. Barber resumed his college course and received his degree, and a few years afterward became assistant curator of ceramics in the Pennsylvania Museum. He was rapidly promoted to curator and thence to director. Under his directorship, as we all know, the museum was greatly developed and came into prominence.

"It was about twelve years ago that I first made Dr. Barber's acquaintance by correspondence. We were both deeply interested in ceramics, and our acquaintance grew into friendship and later into

a very sincere affection. No man that I ever knew have I loved as I loved Dr. Barber. I had the pleasure of traveling with him, of studying museums in Europe, and of visiting old Mexico for purposes of study. It was our habit to meet as frequently as possible, and we often spent the week-end in New York as a middle ground between Philadelphia and Hartford. I found him very kindly, quiet, modest, and always congenial, a true friend, a man who abhorred everything in the nature of fraud, whether in humanity or in ceramics. He became well known through his publications, both in this country and abroad, and received recognition from many foreign societies. His sudden death was an extremely heavy loss to me, and I have no doubt to many of you. He was a loving companion and a wise counselor."

The report of the Treasurer was then presented and referred to an auditing committee, consisting of Messrs. Frederick L. Lewton, Roy W. Miner, and Oliver C. Farrington, which reported at a subsequent session that the Treasurer's accounts had been examined and found correct.

The Chair then called for recommendations of the Council of the Association, which were presented by the Assistant Secretary as follows:

Miss Weeks.—"At the Washington meeting the Association referred to the Council with power to act a communication from the College Art Association relative to college training for art museum workers. Feeling that this matter required more prolonged consideration than could be given to it during the convention, the Council appointed a special committee consisting of Miss Edith R. Abbot, Mr. L. Earle Rowe, and Mr. Benj. Ives Gilman, to make recommendation to the Council. This committee subsequently submitted the following report:

REPORT OF COMMITTEE ON TRAINING FOR ART MUSEUM WORKERS

The committee of the American Association of Museums appointed to consider the question of training for museum workers begs to submit the following report based upon a much more detailed review of conditions prepared by a member of the committee, a copy

of which is in the hands of the Secretary of the Association, where it may be consulted.

Broadly speaking, museum work may be considered under three heads: (1) the administrative, upon which rest all the activities of the museum; (2) the function of the curator, which is concerned with the acquisition, care, and presentation of the collections; and (3) the educational, which through the various departments endeavors to increase the practical usefulness of the institution to the community.

The training of the members of a museum staff should qualify them to deal intelligently with all the problems here involved. The chief administrative officer requires a knowledge of business methods, a personality which will inspire confidence, tact, and facility of address in dealing with the staff, higher officials, all friends of the museum, and officials of the city, if the museum is a municipal institution. In the selection of curators for the various departments a knowledge of human nature must supplement the recognition of ability. In connection with the purchase of objects for the museum collections, he should have a knowledge of the market, as well as an unerring sense of "quality," in estimating a work of art. The educational work demands a keen perception of the varied needs of the community and a sense of responsibility in cooperating with public endeavor.

In addition to these specific qualifications, members of the staff of a museum should have a knowledge of languages other than their own, and facility in expressing themselves clearly in English, both written and spoken. Their education should include the study of museum ethics and the history of art. Extensive European travel is very necessary, as well as opportunity to deal with objects in their original setting. This last may be obtained in archeological field work and the intensive study of later periods.

The specialization required of a curator should be based on a training similar to that described above. Experience as a member of the staff of curators may be a valuable addition to the preparation for an administrative position.

The educational work of the museum has been so recently inaugurated that the requirements of the position of instructor have scarcely been standardized. A thorough knowledge of certain phases of the history of art and general acquaintance with the whole subject, as well as teaching experience, are essential. The power

to interpret the objects in the museum collections requires an appreciation of their artistic quality that is to be acquired only from familiarity with originals. Knowledge of the technical side of drawing and design is necessary, and some experience of the methods of the practical art school most desirable. A sufficient indication is here given of the qualifications which it is desirable that the museum staff should possess. In the large institution the responsibilities are distributed among all the members of the staff, but in the smaller museum the director must often assume the entire responsibility.

The training for this work must be secured from several sources. It is obvious that the college course should provide the training in language, in esthetics, and in the rudiments of the history of art and archeology. But specialized training should be reserved as far as possible for graduate students who have had the broad general college training. Opportunity for graduate work along these lines may be enjoyed in such foreign schools as those of Athens, Rome, and Jerusalem, and experience in field work may be secured in connection with these centers. At the conclusion of this training the student preparing for the position of curator or director is in need of instruction from a specialist in matters related to museum practice and administration, similar to that given at the Kaiser Friedrich Museum in Berlin and at the museum in Nuremberg. The colleges, for obvious reasons, cannot offer such a course, while, under present conditions in this country, the needs and facilities of the museums and their methods of administration differ so widely that it is a question whether any museum would wish to assume the responsibility of inaugurating such a course, even if its director should be qualified to stand as an authority on the subject.

When the college and the art museum work in conjunction and the former comes to realize that in the latter is found a true laboratory for art and history, then much may be done along the suggested lines. However, it will be some time before the museum can act upon the recommendation made in Mr. Breck's report looking towards the establishment "in one or more of our museums of a training school offering graduate work to college-trained men and women."

In order that something may be initiated in the meantime your committee would recommend that the American Association of Museums take action upon the suggestions offered herewith. The

person with natural qualifications for museum work having acquired the preliminary training outlined above will at this stage of his development be able independently to make profitable use of authoritative information if it can be made available. We would, therefore, make the following recommendations:

1. The preparation of a compendium of methods showing the practices in matters of administration in the different museums.
2. The publication in the proposed museum journal of the discussion of problems of general interest by representatives of the different organizations.
3. The printing, in inexpensive form, as complete as possible, of a bibliography of museum literature, both books and magazines.
4. The publication for interested members and students of all plans and information about new museum buildings of the year.

We would further suggest for the information of students intending to enter upon museum work the following:

1. The publication of a brief description of the facilities offered by the American School of Classical Studies in Athens, and the schools in Rome, Jerusalem, and the Southwest. A statement of the opportunities afforded by the Kaiser Friedrich Museum in Berlin and the museum at Nuremberg might also be added to advantage.
2. A canvass of museums to ascertain which would be willing to undertake instruction in museum work with the request that they state their attitude towards volunteers.
3. A frank expression of the outlook for museum workers, including rates of salary, possible openings, and the prevailing tendencies for future development of the museum field.
4. The compilation of an index with all available information regarding positions and candidates for instructors, curators, and directors, this to be kept by the Secretary of the Association or some specially appointed officer for the information of inquirers.

Respectfully submitted,

EDITH R. ABBOT,
L. EARLE ROWE,
BENJ. IVES GILMAN.

Miss Weeks.—"By direction of the President a copy of the report of the Committee on Training for Art Museum Workers was trans-

mitted to the College Art Association, which at its meeting in Cincinnati in April, 1917, adopted the following resolution:

The members of the College Art Association of America heartily approve of the report of the sub-committee of the American Association of Museums. But they go farther. They not only hope that the recommendations of the report may be adopted and fulfilled but also that the American Association of Museums may be able in the near future to make and carry out a definite plan to enable college graduates to undertake in two or more American museums graduate work leading to art museum positions. This would enable teachers of the history of art in colleges to encourage and direct those of their students who may anticipate taking up work in art museums.

Further the College Art Association of America believes that those who hope to secure positions in museums in the United States should be well trained in the history and criticism of American art.

"While the report of the committee deals exclusively with the training of art museum workers, the Council feels that the recommendations should be considered in relation to the training of workers in all classes of museums. To provide for the further elaboration of the important recommendations of the committee, the Council recommends that the Association authorize the President to appoint a series of committees as follows:

1. A committee of three to formulate plans looking to the compilation of a compendium of methods showing the practices in matters of administration in different museums.

2. A committee of three to formulate plans looking to the printing in inexpensive form, as complete as possible, of a bibliography of museum literature, both books and magazines.

3. A committee of three to formulate plans looking to the publication for interested members and students of plans and information about new museum buildings of the year.

4. A committee of three to formulate plans looking to (a) the publication of a brief description of the facilities offered by the American School of Classical Studies in Athens, and the schools in Rome, Jerusalem, and the Southwest; (b) a canvass of museums to ascertain which would be willing to undertake instruction in museum work, with the request that they state their attitude towards volunteers; (c) a frank expression of the outlook for museum workers, including rates of salary, possible openings, and the prevailing tendencies for future development of the museum field; (d) the compilation of an index with all available information regarding positions and candidates for instructors, curators, and directors, this to

be kept for the information of inquirers by the Secretary of the Association or by some specially appointed officer.

"At the Washington meeting the Association referred to the Council with power to act a number of suggestions designed to increase the service of the Association to museums throughout the country. One of the most important of these suggestions was the publication of a museum journal as a forum for discussion of the principles and problems of museum organization and management and for the diffusion of information respecting museums. The Council has given this suggestion prolonged and serious consideration and is convinced that the publication of such a journal is desirable and ought sooner or later to be undertaken by this Association. It is the sense of the Council, however, that the high cost of print paper and the uncertainties incident to the state of war into which the country has come since the last meeting make this an inopportune time for the Association to undertake the responsibility and expense of such a journal. The Council recommends the continued publication of the annual volume of *Proceedings* but in addition thereto that the Association publish a *Museum News Letter* of at least four pages to be issued nine times a year and that provision be made for the selection of an editor and three associate editors to represent art museums, science museums, and historical museums respectively. In making this recommendation the Council desires to direct the attention of the Association to the fact that the general expenses of the Association already exceed the income and that the publication of a news letter will still further increase the deficit. The Council recommends that steps be taken during this meeting to provide for an increased income to meet this deficit."

After a full discussion of the communication and recommendations of the Council the Association voted that the President be authorized and requested to appoint the committees recommended by the Council.¹

¹ At a later session the President announced his appointment of these committees as follows: (1) Committee on Administrative Practice: Messrs. N. H. Carpenter, L. Earle Rowe, and G. H. Sherwood; (2) Committee on Bibliography: Messrs. N. L. Britton, H. W. Kent, and R. W. Tower; (3) Committee on New Museum Buildings: Messrs. F. A. Whiting, O. C. Farrington, and A. R. Crook; (4) Committee on Training and Employment: Messrs. O. C. Farrington and H. L. Ward, and Miss Margaret T. Jackson.

The Association also endorsed the decisions of the Council with reference (1) to deferring the publication of a journal; (2) to continuing the publication of the annual volume of *Proceedings*; and (3) to the publication of a *Museum News Letter* of at least four pages, to be issued nine times a year. It was voted that the selection of an editor and three associate editors be referred to the Council with power to act.²

In the course of the discussion of the recommendations of the Council Mr. John Cotton Dana, director of the Newark Museum Association, Newark, N. J., presented to the Association the first issue of a museum journal,³ and explained its purpose and the circumstances under which it was conceived by quoting from the introductory note as follows:

Members of the staffs of the Newark Library and the Newark Museum—and the two are in large degree the same—held a conference on May 5th and decided to give such time as they could for a week to the preparation of copy for an experimental number of a museum magazine, and to the attempt to get copy from others and to sending requests for advertisements. We wished, of course, to get the journal out in sixteen days that we might present it at the first session of the association's annual meeting on May 21st. Before the week ended we had decided to go on with the enterprise and had sent most of the copy to the printer. These facts quite fully explain why so few were asked to contribute, and why so much of the journal's contents has to do with library and museum work in Newark. If what we have brought together proves of interest and value to museum workers, then we seem to have shown very clearly that the copy to make a good monthly journal could easily be gathered from the whole museum field.

We note that nearly all museum bulletins publish little that is of interest to workers in other museums. Perhaps this as is it should be; but the fact that a few museums, most of them in the science field, give space to much that is of rather direct appeal to museum workers, makes it proper to ask if more of the detail of museum administration could not well be included in the house organ of every museum? Against this suggestion may be cited the fact that a museum issues a bulletin chiefly to inform its members of its progress, and that progress is largely marked by acquisitions, and that these acquisitions call for descriptions. This may be true in respect of museums dependent largely on gifts from individuals; for donors must be pleased and may be supposed to wish to be enshrined as to their charities in a rather refined museum bulletin, as well as in the columns

² The Council subsequently selected the following editorial staff for the *Museum News Letter*: Editor, Mr. Harold L. Madison; Associate Editors: Mr. Roy W. Miner (science), Miss Margaret T. Jackson (art), and Mr. Frank H. Severance (history). The first issue of the *Museum News Letter* was published in June, 1917.

³ *The Museum*, edited by John Cotton Dana, Newark, N. J., Vol. I, No. I, May, 1917.

of the daily press. But it is easy here to assume too much, and to allow the assumption to serve as ample reason for giving scholarly curators opportunities to talk wisely, as they should in some proper place, on notable gifts and purchases. And so, after all, comes the question, is the average museum bulletin relatively worth its cost? Does it do its appointed work in its field of friends and subscribers? I ask the question not to give it an answer; but to follow it with another.

Let me lead up to the question by remarks on a journal of American museums.

It would not live on subscriptions. If properly edited and managed it should take the entire time of one or two efficient office workers, and much of the time of a person of wide museum knowledge and of high skill in editing and managing. This means, when office, publication and distribution expenses are added, a yearly total greater than could be hoped for from subscriptions and advertisements combined.

Now, my question is, will the museums of the country contribute generously to the support of such a journal? They contribute already to the maintenance of a whole group of journals, their bulletins. Will they go further and contribute to one bulletin, a joint and several publication? Such a journal is needed. I shall venture to assume that all museum workers are of that opinion and shall not here advance any arguments in its favor save this one only: Museum development is in its infancy; a more rapid growth than that which we now see is desirable simply because the country needs and can use more and better museums than it now has; and, nothing would do more to promote that development than a journal which should put into its pages the story of the growth of, the methods pursued by, the theories evolved and tested in, and the results gained by, all the museums of all kinds now in existence. Such a journal, edited with discretion, would attract many laymen, as does the fascinating monthly that comes from the American Museum of Natural History in New York and the bulletin of the Metropolitan with its rapidly widening field. Moreover, it would pull museum workers together, perhaps more than twelve times as much as do our annual meetings and the very rich annual report of our proceedings.

I am not suggesting that any museum give up its present publication entirely. Rather, I am suggesting that each do more along the same line, perhaps, in some cases, using the national organ for the first publication of much of its material, and using separate reprints of certain things for distribution among its own friends and patrons. Thus it would get some return for its financial contribution. Indeed, one method, and perhaps the best, of persuading trustees to make grants to a national museum organ would be to ask them to subscribe to a large number of copies and pay a certain number of times each year for a stated amount of reprints, distributing both journals and reprints in their respective cities.

So much for our reflections on the subject. That we are in earnest and believe in what we have said is quite well shown, we hope, by our contribution to this conference of Vol. I, No. I of *THE MUSEUM*—conceived in good will and offered with a very full sense of its failings.

At a later session the Association adopted unanimously the following resolution proposed by Mr. Benj. Ives Gilman, of the Museum of Fine Arts in Boston:

The members of the American Association of Museums desire to express their recognition of the exceptional qualities displayed by Mr. John Cotton Dana in preparing and printing in little more than a fortnight the interesting and attractive pamphlet entitled "The Museum" offered by Mr. Dana to the Association as an example of what might be made of the journal proposed at a former meeting and recently advocated in the report of the Committee on Training for Museum Workers distributed among the members in advance of the present meeting by direction of the President. They find in Mr. Dana's publication a signal instance of his capacity of enthusiastic devotion to an ideal, and accept the gift as a valuable contribution to the problem before them.

Mr. Stephen B. Luce of the University Museum, Philadelphia, called the attention of the Association to the fact that the quarterly periodical of that museum is called *The Museum Journal* and has been published since 1910. He suggested that confusion would result if a journal published by the Association were given the same title.

Mr. L. Earle Rowe, of the Rhode Island School of Design, Providence, expressed the opinion that brief notes of new exhibits, changes in staff, progress of work, and other museum news, are especially interesting to the readers of museum publications, and that the proposed *Museum News Letter* affords an admirable medium for material of this sort.

Dr. W. P. Wilson, of the Philadelphia Museums, expressed the opinion that in view of the limited financial resources of the Association the editorial work incident to the publication of the *Museum News Letter* should be performed without remuneration, leaving the cost of printing and distribution as the only charges on the treasury of the Association. Mr. Harold L. Madison, of the Park Museum, Providence, R. I., expressed the opinion that provision should be made to employ the necessary clerical assistance. No formal action was taken by the Association.

The Association discussed at some length the possibilities of increasing membership dues and of obtaining larger financial support. It was the sense of the meeting that every effort should be made to present to museums and museum workers throughout the country the value of the service rendered by the Association, and it was suggested that the *Museum News Letter* be distributed to as many prospective members as possible as a means to giving publicity to its work. Mr. Newton H. Carpenter, of the Art Institute in Chicago, emphasized the large sum of money represented in the

aggregate by the time and traveling expenses of the delegates attending the conventions, and expressed the opinion that the dues paid into the treasury are an inadequate support of the Association on the part of the museums which profit by the meetings and work of the Association. He suggested that if the matter were properly presented many of the larger institutions would be glad to pay more than the minimum dues of \$10. Several members expressed their intention of availing themselves of every opportunity to present the value of the Association to museums and museum workers not now represented in the membership.

The provision of the Constitution limiting Active Membership to persons actively engaged in museums was discussed at some length. Mr. John Cotton Dana, of the Newark Museum Association, Newark, N. J., was strongly of the opinion that if Active Membership in the Association were opened to all persons sufficiently interested to pay the dues it would easily be possible greatly to increase the number of members and the funds available for the work of the Association. Dr. W. P. Wilson, of the Philadelphia Museums, and Dr. James E. Talmage, of the Deseret Museum, Salt Lake City, Utah, supported Mr. Dana's position. Dr. Talmage stated that he was a member of the committee that drafted the Constitution when the Association was organized, and it was his recollection that this matter was considered at that time and that the central thought was that we should establish ourselves as an exclusive body confined to those who have a professional standing in the museum world. Dr. Talmage felt that as the result of this policy the Association has necessarily been always in want, owing to the limited number of professional museum workers. He thought also that this exclusiveness was inconsistent with the conception of museums as essentially popular institutions. For these reasons, Dr. Talmage favored opening Active Membership to all who wish to associate with us and amending the Constitution if necessary to provide for this.

The Secretary stressed the value of the Association as a professional organization and expressed his fear that if persons only indirectly interested in the work of museums were admitted to Active Membership there would be serious danger of the policy of the Association being determined by persons not actively engaged in museum work. He felt that this would be a matter of serious concern and would greatly lessen the value of the Association. Dr. Henry F.

Osborn, president of the American Museum of Natural History, Mr. Benj. Ives Gilman of the Museum of Fine Arts in Boston, Dr. Oliver C. Farrington of the Field Museum in Chicago, and Mr. Stephen B. Luce of the University Museum in Philadelphia, were strongly of the opinion that the value of the Association depends upon its being maintained as a strictly professional organization and were opposed to any action removing the present restrictions upon Active Membership. Dr. Maude E. Abbott, secretary of the International Association of Medical Museums, stated that this organization had found its field so restricted that it was considered desirable to open membership to all actively interested in the work of museums. Dr. Abbott thought that the fee of \$3 for Active Membership is sufficient to confine the membership to those who are really interested in museum work. Mr. Gilman thought it inadvisable to change the requirements for Active Membership so as to admit persons who are not desired and then to depend upon the chance that they will not avail themselves of the privilege. He then expressed the desirability of maintaining the professional character of the Association. Mr. Luce suggested that if the Association can publish a journal of broad interest to persons not actively engaged in museum work a class of Subscribers might be created to accommodate such persons while Active Membership is still restricted to museums and professional museum workers. Dr. Farrington cited a scientific society of a professional character which was abandoned by many of the original members when membership was opened to persons not immediately engaged in the work which the society represented, with the result that another organization of strictly professional character was formed. He stated his confident expectation that the broadening of the membership of the American Association of Museums to the large degree suggested would make it necessary in future years for those actively engaged in museum work to form a separate organization. Mr. Luce expressed his agreement with Dr. Farrington.

Mr. Dana raised the question as to whether the work of museum directors and curators is a profession. It was apparently the sense of the meeting that it is a profession and that every effort should be made to secure its recognition as such.

The report of the committee appointed at the Washington meeting to consider methods of cooperation between the Association and the

Forest Service was presented by the chairman, Dr. A. R. Crook, curator of the Illinois State Museum, as follows:

Dr. Crook.—"Mr. Chairman and members of the Association: Your committee appointed at the Washington meeting to consider the possibility of cooperation of American museums with the United States Forest Service makes the following suggestions as to the kind of exhibits and the character of the materials which museums would be glad to have and which it would be possible for the Forest Service to supply. The Chief Forester informs us that he will gladly carry out the plans as far and as soon as it is practicable to do so.

"The exhibits could well be of two kinds: loan exhibits and permanent exhibits.

"The loan exhibits would consist of smaller or more expensive specimens or those of more transient interest than the permanent exhibits. They could be placed in cases about 4' x 4' x 1' in size, and crated for safe shipment and ease of handling. Museums wishing them would pay freight one way and retain them for ten days or until called for by the next museum.

"The permanent exhibits would consist of inexpensive materials which could be furnished by the Forest Service free of charge, of materials which could be secured from manufacturers, or of materials for which the Forest Service would make a minimum charge.

"The following materials could be shown to advantage: (1) posters, signs, notices, and instructions actually in use by the Service for visitors in national forests; (2) implements used in detecting, announcing, and fighting fires; (3) photographs, transparencies, and lantern slides; (4) models of forests with trails, observation stations, camps—the models showing a region before and after deforestation; (5) miniature or full-size models of foresters' camps; (6) tents; (7) a mounted forester with full equipment; (8) methods of forest conservation, propagation, etc; (9) uses of forest wastes; (10) injurious insects, birds, mammals; (11) use of forests for timber by settlers, and for increasing food supply by pasturing, and by preservation of fish, game, etc."

On motion the report of the Committee on Cooperation with the Forest Service was received as information and the committee was continued with authority to make such arrangements as are necessary to furnish information for the use of the Association in securing the exhibits described in the report.

In the absence of Mr. Henry W. Kent, chairman of the Committee on Cooperation with the American Federation of Arts, no report was received from this committee.

The Chair then called upon Mr. Roy W. Miner, of the American Museum of Natural History, for his report as delegate to the convention of the International Association of Medical Museums.

Mr. Miner.—"Mr. President and members of the Association: I had the honor and pleasure of being asked by the President to represent this Association as delegate to the tenth annual meeting of the American section of the International Association of Medical Museums at the Academy of Medicine in this city Thursday, April 5, 1917. My instructions were that I should do all in my power to aid the expressed desire of both associations to come to a closer degree of affiliation.

"First of all I wish to say that I was received with great cordiality and thoroughly enjoyed my experience. The desire for cooperation with this Association was very evident, and I would like to report that any impression I may have had as to the desirability and effectiveness of this cooperation was greatly confirmed by the interest of the papers in the first session of the meeting as applied to museum and laboratory technique. The desirability of this affiliation may be well shown by such titles as "The making of glass frames," "Methods of mounting," and "Typewriting labels on museum jars." These are not exclusively medical matters; they are of interest to all scientific museums.

"The means for closer affiliation which suggest themselves to me and to Dr. Abbott, the secretary of the International Association of Medical Museums, were talked over in a later conference, and it seemed to us both that several recommendations should be made. In the first place we both feel that each association should be represented at the conventions of the other by a delegation of more than one person. I would offer the tentative suggestion that the president and the secretary of each association, or their representatives, be designated as permanent delegates for this purpose.

"In the second place we feel that there should be an exchange of publications. Such an exchange of past publications has already taken place between the secretaries. I would suggest further that each association extend to the other the privilege of reprinting articles of mutual interest in its publication.

"Finally, a matter of considerable interest to the Association of Medical Museums and to our own Association was taken up and I have received a formal letter from Dr. Abbott, as secretary of that Association, addressed to me as delegate, requesting the cooperation of the American Association of Museums in an effort undertaken by the Association of Medical Museums to obtain a domestic supply of rectangular glass jars such as hitherto have been imported extensively from Germany. There is every reason to believe that satisfactory jars of this type can be obtained in this country, if a sufficient market can be assured the manufacturers.

"A sample jar was presented before the Association of Medical Museums and the president has very kindly transmitted it to me for exhibition before you. I may say, in passing, that this jar is really a cull from a number of jars that were tried out by the manufacturers in endeavoring to produce one that would accord with their standard. It seems to be a good article and if the regulation jar is superior to this it would be satisfactory in every way. The jar as it stands is not polished on one side but that is a matter of detail which could be carried out at any time. This particular jar is about 15×5 cm, inside measurement. The price offered, which is what they call the duty-free price, and compares favorably with that of the foreign manufacturers, is \$3.30 per dozen. If bought in less than dozen lots, the price is at the rate of \$4.05 per dozen.

"I have been informed by the secretary of the Association of Medical Museums that these manufacturers are not willing to undertake the manufacture of these jars unless they receive orders totaling \$5000 in amount and my purpose in presenting this to you is merely to give opportunity to the museums of this Association to state whether or not they find such jars desirable in any one of the ten sizes and to find if this Association would like to cooperate with the Association of Medical Museums in bringing about the manufacture of these jars. This type of jars has been of great value to all museum people and the fact that they have been discontinued because of the war has been deprecated by all.

"The specifications of the jar are as follows:

Rectangular jar made of white glass, not polished, fairly uniform thickness and strong parts; the price of the smallest is \$1.20 and the largest \$18.50 a dozen and the other sizes range between these two.

"If the members of the American Association of Museums would like to investigate this matter further it has been suggested by Dr.

Abbott that your requests be transmitted to our secretary or to any one whom the Association may designate. We can then collaborate with Dr. Abbott and bring in an order of the required size."

The Chair then expressed the pleasure of the Association in having present as a guest Dr. Maude E. Abbott, secretary of the International Association of Medical Museums, and at his request Dr. Abbott addressed the Association as follows:

Dr. Abbott.—"Mr. Chairman and members of the Association: I am going to take this opportunity first to express on behalf of the International Association of Medical Museums the great appreciation of that body of the courtesy and cordiality which has been shown to us by this Association, which is not only the elder of the two by a year of organization, but must also be considered the more powerful, not perhaps in point of membership, for our membership is probably about the same, but in view of the fact that we represent only one department of science—medicine—and we do not have behind us, in this country at least, such important institutions as are represented among your natural history and art museums. In this sense we are the weaker of the two bodies.

"I would like to say just a word about the origin of our society because it was organized in close conference with some of the organizers of the American Association of Museums. At the time of organizing in 1907 I went down to Washington and laid the proposition before Major Carroll, then curator of the Army Medical Museum. He sent me to Mr. Rathbun at the National Museum and in consultation there we drew up some of the articles of our constitution. When our first meeting was held in conjunction with the International Conference on Tuberculosis in Washington in 1908, the programs were printed for us at the Smithsonian Institution and our first bulletin was published for us free by the Surgeon General's press.

"At that meeting the question of affiliation with this Association was one of the first items on our program, and we received at that time an invitation through Mr. Rathbun to affiliate with the American Association of Museums. But it was felt that our paths were not yet beaten out sufficiently to know what our course would be and that it might be better to obtain more autonomy before seeking larger fields, as it were. Last year in correspondence with Mr. Rea, the subject came up again, and this year our society by unanimous

vote recommended that all methods possible be taken to secure affiliation with this body.

"Now, this subject of museum jars has become a very practical point with medical museum workers. The museum jar of course is needed in medical museums more than in any other kind of museum. As secretary of our association I came into correspondence with the British Museums Association through their secretary, Mr. Lowe, who was also organizing a similar campaign to establish a source of glass museums jars in Great Britain. Through Mr. Lowe I came into correspondence with Mr. Rea.

"Last year we organized a committee on this subject, and after canvassing a number of manufacturers the Phoenix Glass Company took the matter up. All orders have to come through the secretary of our association. Of course if you were willing to take it up yourselves orders would be received gladly through your secretary, or if you prefer they could come from him to me. It is necessary to have a certain amount guaranteed before the manufacturers can make the moulds, which are the expensive part. Once these moulds are made and \$5000 worth of orders placed, smaller orders will be taken. Until we show a sufficient demand the Phoenix Glass Company cannot put aside the more lucrative business it is getting on account of the war. By canvass of our members we have secured orders amounting only to \$1683. I have a list of subscribers here which I will be glad to pass around. The time of the offer is limited; the freedom of the summer is necessary if the company is to put this order through since this business is not particularly to the advantage of a glass manufacturer. If, therefore, the same need for these jars is felt in your society as is felt in ours, we would like to ask your immediate cooperation."

Mr. Douglas Stewart (Carnegie Museum, Pittsburgh, Pa.).—"I wish merely to say that the Carnegie Museum needed jars of certain sizes and I took the matter up with the Macbeth-Evans Glass Company. They have made the jars of several sizes, viz: $6 \times 2\frac{3}{4}$, 9×4 , 8×11 , 11×5 , $11 \times 5\frac{1}{2}$. The jars are buffed on one side, not polished, and they are furnished with plate glass lids. The price for the smaller sizes is \$10.50 a dozen; the two larger sizes are \$15 a dozen. I don't know whether glass prices have changed in the last six months."

The President subsequently appointed Mr. Roy W. Miner a committee of one to cooperate with Dr. Abbott in securing orders for

glass museum jars. At a later session Mr. Miner reported that he had compared the sizes and prices of the jars that Mr. Stewart had arranged to obtain from the Macbeth-Evans Glass Company with those of the Phoenix Glass Company. He called attention to the fact that these two series really supplement each other advantageously. The three sizes manufactured by the first company are larger than the ten sizes submitted by the second company. There are therefore available thirteen well-graduated sizes of jars of a type heretofore manufactured only in Europe but now available in this country. Mr. Miner requested each member to obtain information regarding the stock on hand and the jars needed in his own museum.

The Association then adjourned for luncheon in the Philippine Room as guests of the American Museum of Natural History.

SESSION OF MONDAY, MAY 21

Afternoon

The Association reconvened at 2.30 p.m. President Henry R. Howland, superintendent of the Buffalo Society of Natural Sciences, read his presidential address as follows:

THE VALUE OF MUSEUMS IN COMMUNITY COOPERATION

The Constitution of the American Association of Museums states primarily that "The object of the Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them."

I do not interpret these last four words as intended to refer alone to museum workers, but, on the contrary, I think it means that one of our purposes should be to encourage helpful relations between our museums and that great body of people who are or who should be "interested in them"—the general public.

We include in our membership museums of science, of art, and of history, as having a common purpose worked out by each in its own way, all cooperating in a common service of helpfulness to each other, learning that wisdom which comes from many and varied experiences, the resultants of many well-tried experiments, varying according to individuality and environment, but making up a book of knowledge

by which we all profit. So do we seek to fulfill the first-named of our objects as enumerated in Article II of our Constitution—"to promote the welfare of museums."

To a certain extent also these things serve to further the second-named of our objects—"to increase and diffuse knowledge of all matters relating to museums;" but we have learned that this has a broader significance than might appear at first sight and includes others besides ourselves. From the very first meeting of the Association, and especially in its earlier years, we have listened to much discussion as to the true aim of a museum. There have been many views expressed, views that have been wonderfully varied, and the older members will not forget the dictum of one well known among them, who stated emphatically that in his judgment a museum was not intended for the diffusion of knowledge, that it should not "go to the public" but should "lead them" by confining its efforts to scientific investigation. Just how this, by itself, can "lead" an uninformed but inquiring public is by no means clear to my mind, and may not have been to his.

However, in the course of ten or eleven years we have reached a consensus of opinions that one great aim in all museums is or should be educational; that we are to "go to the public" and, as far as possible, instruct the community as to what our exhibits and our work really mean; that our collections are not mere gatherings of curiosities, but that they have a meaning and perhaps a lesson, more or less important, that every visitor may grasp to his profit; and that in diffusing knowledge the museums are a part of the educational life of today, and have a definite relation of service to the real driving, humdrum, "squeezed-lemony" world that surrounds them.

I have the honor to represent a society which has had an active existence for fifty-six years, for the Buffalo Society of Natural Sciences was organized in 1861, four years after the founding of the Smithsonian Institution and seven years before that of the American Museum of Natural History in New York City. Its aims were specifically stated at its founding as being "to promote the study of the Natural Sciences, to stimulate and encourage original scientific research, and especially to provide for the people of our city free instruction in those sciences and thus to further educational work in Buffalo by every means in its power."

This placed on its work from the beginning an educational value which has been steadily maintained. While it has consistently

stimulated and encouraged original scientific research, as its collections and publications will testify, it has never forgotten that it owes to the people of Buffalo a duty which it has sought to fulfil by its educational endeavors to the full extent of its powers. In my judgment, a like duty devolves upon every museum in this country, whether of art, of history, or of science. Methods may differ; the extent of effort may not be the same in all cases; but the purpose is the same. More and more the museum of today is going to the public; and in spite of our friend Dr. Gilman's antithetical dictum that a museum of science is a school and a museum of art a temple, more and more museums of science and of history are adopting such methods of attractive installation, of instructive labeling and the like, as to afford their visitors that "concrete satisfaction" and "thoughtful pleasure" which no longer belong to art museums alone. Thus, I believe, we are all seeking to fulfil the second-named object of our Association—"to increase and diffuse knowledge."

This brings me to the third provision of Article II, which gives as a third object, "to encourage helpful relations among museums and those interested in them." Many of the museums in our membership receive either city or state aid, a fact which in itself emphasizes a civic duty; and such museums as do not have this direct aid but are founded and sustained by private benefactions must nevertheless recognize, in these days, that one purpose of their being is to serve not a limited patronage alone, but, in a larger sense, the whole community in which they are placed, as far as it can be helped by their endeavors.

The spirit of our organization is cooperation, and this looms up largely in our discussions as far as it relates to a kindly and healthful cooperation among ourselves, a matter so important to us that a special committee has been appointed to consider and report upon the ways and means by which such cooperation can be extended and made most effective. This is well and is most needful, but I would ask you: Is there not an even broader field of cooperation by which at home we may the better "encourage helpful relations" between our own museums and our own community people, for whose good in a large measure we exist?

If we receive aid from our cities, how can we best give full value in return? In most of our cities there are, as in Buffalo, several institutions which are recognized as educational centers. In my own city there are the Albright Art Gallery, the Buffalo Historical Society,

the Buffalo Society of Natural Sciences, and, of equal value educationally, the Buffalo Public Library and the Grosvenor Reference Library. It so happens that all of these receive appropriations from the city, but the opportunity of which I speak would be the same were such not the case. In every such instance, no matter in what city it may be, each institution carries on its especial activities quite independently of the others and without regard to what the others may be doing. This results oftentimes in a waste of energy, and in a duplication of endeavor that would be far more effective if more concentrated and coordinated. In these days of organization and cooperation for the purpose of increasing efficiency, such waste and such duplication seem behind the times. There is or there should be a spirit of getting together so as to accomplish the greatest good for the greatest number. It is such cooperation between our museums and the people whom they serve that I would commend to your consideration. Perhaps the effort has been tried by some of you; it has been successfully tried in Buffalo.

The three institutions that are members of this Association joined with the public circulating library and the public reference library in organizing an "Educational Union" as a sort of clearing house in our city for educational endeavor. An executive committee was formed, in which each of these educational centers was represented, and this committee directed the endeavors in which all joined. There is a large foreign element in our population needing more education and Americanization; and beside that foreign element there is a large part of our people, as in every city, that must be told how to make use of the opportunities that are freely offered. To make these opportunities clearer, large cardboard placards were printed with the heading: "Why not use the means of education offered by the City of Buffalo free to all its residents?" Following this pertinent inquiry were marginal pictures of each of the educational centers to which I have referred, and opposite each a brief statement of what the institution offers for public education and uplift. These were widely distributed throughout the city, being placed in all the schools, in the leading stores, and in the manufactories where many men and women are employed. These placards have served a most useful purpose.

Then a thirty-page booklet was published entitled "Means of Education in Buffalo," giving a very complete list of the schools and academies, public, parochial, and private; libraries, collections, business schools, settlement houses, etc.; with explanatory notes regarding

each and a statement of its purpose and work. A very large edition was printed and circulated judiciously, but quite broad-cast, wherever workers are and wherever those might be reached to whom it might be of profit.

The Buffalo Society of Natural Sciences gives each year, as a part of its educational work, a series of free illustrated public lectures on Friday evenings for a period of six months from November 1st to May 1st, for which we bring the best lecturers in the United States. The Buffalo Historical Society and others of our institutions give during the winter similar but less extended courses. From year to year small booklets have been printed by the "Educational Union" giving all these programs, and these have been distributed for public benefit. Each of the institutions I have named has had a series of lantern slides made illustrating its work. These have been joined together to make an interesting and suggestive lecture showing how the freely-offered benefits of each institution may be enjoyed, and this lecture is given in all of the night schools of the city, the several members of the joint committee taking turns in presenting it. The result of these endeavors, we believe, is a wider awakening of civic interest in the museums and the libraries themselves and in the work they are doing, and an increased desire on the part of the people to avail themselves of the privileges offered. The effort has seemed worth while. It has not interfered in any way with the work carried on by each institution, but it has brought them all to the people. By such systematic correlated work on the part of all it has made the work of each more effective; it has made a stronger tie of union and of common interest between the institutions themselves by the working out of a common purpose, a purpose which in my judgment is fundamental with all of us.

It is because the result seems to me to fulfil in the broadest way the intent of the third item in Article II of our Constitution—"to encourage helpful relations among museums and those interested in them"—that I have ventured to commend these things to your consideration.

Mr. Roy W. Miner, assistant curator of invertebrate zoology at the American Museum of Natural History, New York City, gave an illustrated talk entitled "Imitating a Tide Pool," in which he showed by means of lantern slides the site selected at Pulpit Rock, Nahant,

and the successive steps in the preparation of the exhibit, both in the field and in the laboratories of the American Museum of Natural History. By special arrangement the members of the Association had the privilege of examining the actual group, which was at that time nearing completion.

In response to a question Mr. Miner stated that the lantern slides illustrating this group eventually may be purchased for use in other museums, but that until the American Museum of Natural History has finished publication on this exhibit the slides are necessarily restricted.

Mr. Dwight Franklin, preparator of ethnological groups, submitted the following paper:

THE PSYCHOLOGY OF MUSEUM GROUPS

I am not a psychologist, as the title of my paper might imply, but for ten years I have been trying to find out why many of the exhibits in our museums receive merely a passing glance, while others arouse the deepest interest and admiration from even the most casual visitor. Generally, it is the human or dramatic note that appeals most strongly, a fact which those of us whose work it is to arrange these exhibits must realize and apply with the utmost ability if our work is to count.

After working seven years in one museum I lost much of my perspective of the point of view of the public, but I did not realize this until after two years of work on various exhibits for some six different museums. Perhaps my viewpoint is still warped, but I firmly believe that those who plan and arrange museum exhibits have the most fascinating work imaginable, if only they will realize their opportunities.

While our museums are great storehouses for all kinds of interesting truths, they frequently present these truths in such an inadequate and confused manner that the visitor fails to grasp the important point. Many handbooks contain information that might well be on the label, while many labels need merely to be cut up and bound to make excellent handbooks. If the big, simple ideas can only be "put across," the specimens themselves take on an added interest. For unless the exhibit has in it a really significant idea that can be appreciated by the average visitor, it has lost much of its vitality. It must be an idea which not only conveys the necessary information, but which carries

the mind beyond the mere specimen itself. A meteorite, for example, is full of poetic possibilities if we bring out the idea that this rusty mass was once part of a shooting star which fell on our planet. Also, the fact that it furnished primitive hunters with iron for spears, etc., will arouse interest.

Perhaps curators do not realize how advanced and specialized is their own interesting work—a fact which may handicap them in making their point of view clear to the average person. Possibly if they wrote for the magazines, they might realize this. There is no branch of science which cannot be made vitally interesting if only it is shown in a manner to kindle the imagination and arouse the enthusiasm. Yet there are halls in nearly every museum that are generally deserted, simply because the subject is treated in a manner utterly uninteresting to the man in the street. For this reason, such departments need particular care and should be a challenge to any live curator. If the dominant idea in the exhibit cannot easily be understood by an intelligent grammar school child, it is not likely to be grasped by the average visitor.

Our museums are primarily for the public; we must therefore look at our exhibits through the eyes of the public, and also regard the visitor with the respect due him as the critic of our work. A gang of boys in the neighborhood of my studio have given me many unconscious criticisms of my museum groups. Their first exclamations and frank remarks are of great help to me, although they may not realize the fact; so, also, with the colored janitor who cleans my studio, the night watchman, the electrician, and the plumber—all representative of our public. I overheard one of the most satisfactory tributes to the atmosphere of a Sahara desert group while I was at work near by. Two little chaps were standing before it when one exclaimed, "Gee! but I bet it's hot out there!"

In closing, let me say that I purposely have refrained from any specific criticism, because so many different types of museums are represented here. I simply wish to offer a few general suggestions that have occurred to me as I have wandered thorough many museums in different parts of our country. And if my ideas are not clear or have been often said before, I shall welcome any stones that may fly in the direction of my little glass house.

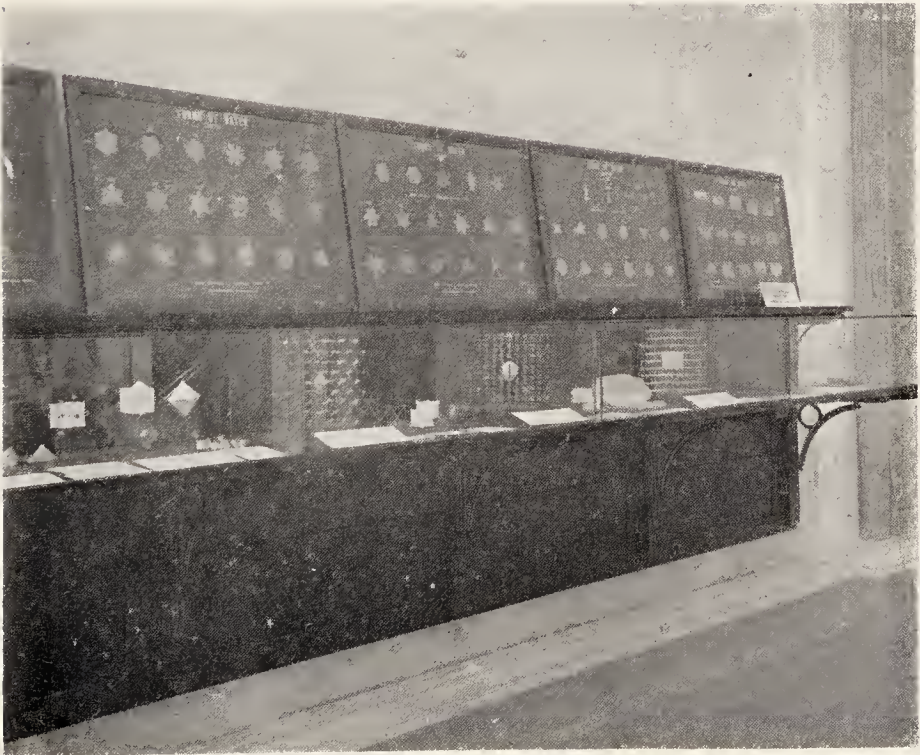
Mr. Benj. Ives Gilman (Museum of Fine Arts, Boston).—"Mr. Franklin says he is not a psychologist; neither am I at present, but I began as a psychologist, and it seems to me that in his paper Mr. Franklin has struck a point of fundamental importance in emphasizing the value of the criticisms of those for whom the exhibits are prepared. It seems to me that many of our failures are due to the fact that we do not pay attention to such criticisms as Mr. Franklin finds helpful in his work."

Mr. Herbert P. Whitlock, curator of minerals, New York State Museum, then presented the following paper:

PRESENTATION OF CRYSTALLOGRAPHY AS A MUSEUM INSTALLATION

We have come through long and more or less bitter experience to a point where we are inclined to treat the average intelligence of our museum public as a fragile and precious thing to be delicately fostered, as we would a hothouse plant. We are impressed for the most part with the utter futility of serving up to the people an intellectual dish which they are unwilling and unable to assimilate. So it is that there have come to be many subjects which might be features of a natural history museum installation, but which, although of interest in their public appeal and of importance through their relation to larger exhibits, are either entirely disregarded as beyond the mental reach of the average visitor, or installed by those of us who believe in catering to the intellectual aristocracy rather than to the unintellectual masses, in a conventionally didactic way, to be taken or left as the case may be. In this latter category must be placed most of the exhibits of crystallography with their long and difficult names and their fascinatingly complex but utterly bewildering arrays of wooden or plaster models, exhibits which belong in the classroom rather than in the museum and which should be demonstrated from the lecture table rather than from the exhibition case. I have no doubt that there are many curators of geology collections who are willing to adopt, if they have not already adopted, the view that an installation of crystallography is a waste of time, space, and material, in as far as it is likely to prove an aid to the appreciation of a mineral collection by the public.

It is my purpose to endeavor to win you over to a more optimistic view of the possibilities of an exhibit illustrating crystallography and



PORTIONS OF A SHELF EXHIBIT EXPLAINING "CRYSTALLIZATION" IN THE NEW YORK STATE MUSEUM, AT ALBANY

to describe an attempt to popularize the subject in an installation quite recently added to the mineral hall of the New York State Museum.

Perhaps the initial step in the popularization of such an exhibit is frankly to abandon the term "crystallography" entirely and to plan a series of mounts which will illustrate the "phenomena of crystallization." This change of terms, which may possibly appear in the nature of a quibble, was adopted with a view to placing the series which I am about to describe upon a mechanical rather than a mathematical basis and to give to it from the very start a broader and more vital scope than could be achieved through the presentation of the conventional display of ideal and natural crystal forms arranged in systems and groups. Emphasizing this point of view, the installation naturally took the form of an exposition of molecular groupings to show the internal structure of crystals, illustrated by structure models and explained by more or less lengthy labels attached to each mount; in other words, the installation developed into a visual lecture on crystallization.

The success of such a departure from the conventional method of museum presentation was, from the outset, recognized to be largely dependent on the attractiveness of the individual mounts, and for this reason considerable pains were taken to draw the attention and center the interest on the crystal structure models, visualizing in these as clearly as possible the statements made on the labels. The fourteen principal groupings of crystal particles were constructed in model, representing the crystal particles by means of glass beads of different colors mounted on blackened wire rods which were fastened upright on black wooden bases, the whole being displayed against a black background. The effect of this arrangement is to visualize the particle grouping shown by the colored beads as though it were suspended in space. Supplementary models constructed of cardboard, thin glass rods, and beads, as well as mineral specimens illustrating cleavage, symmetry, and natural crystals, serve to link together the models of particle grouping into a continuous series of mounts, each developed from, and explained by, the one preceding. The entire series is mounted as a wall installation on black-finished shelves at a level of three feet three inches from the floor and covered by inverted plate glass boxes, the latter being dust-proofed with felt on their supporting edges. The series consists of sixty-one mounts occupying thirty-seven feet of shelf space.

A word as to how the interest in this exhibit is aroused and stimulated. In the first place, the series of mounts as a whole is unquestionably attractive. I have many times seen groups of visitors who, ostensibly, could have had no interest in a crystallography exhibit, as such, turn away from attractively displayed cases of minerals and from series of industrial geology calculated to appeal to the practical, in response to the mere lure of the eye embodied in this aggregation of beads and cardboard, standing out as it does against an intense black background. Those of us who have had any experience with museum crowds will understand the psychology of this; we can not hope to catch the first interest of our public, the interest which causes the visitor to turn his steps aside from the straight aisle between the cases, or from the purposeless wandering among the alcoves, except by the direct appeal to the eye. *We can not interest until we attract.*

Having aroused interest in the exhibit as a whole, we begin the series with an impressively large and perfect crystal of quartz. Attention is drawn to the fact that crystals such as this one are both distinctive and characteristic of minerals; and the question, "How?" being suggested, the way is opened, through the display of a series of photographs of clouds and snow crystals explained by a label of a hundred words in length, to the presentation of the idea of particle attraction. To give an illustration of how this is done, I will quote the label of the third mount:

"In order to understand this grouping of particles" (referring to the photographs of snow crystals mentioned in the previous label) "it has been assumed that each crystal unit of a crystallizing substance has the power of attracting to itself other similar units along definite directions of attraction. Such a crystal unit of common salt with its directions of attraction might be imagined as the above model."

From the idea of particle attraction the series leads on through particle groupings (space lattices) and cleavage to the idea of the elements of symmetry embodied in these groupings and so to natural crystals exhibiting such symmetry.

If we are to judge the popularity of an installation by the number of fingerprints left on the glass which covers it, the crystallization models are attracting nearly as much attention as our collection of gems and precious stones, and considerably more than the series of meteorites or than the cases of the larger and more impressive specimens of the general mineral collection. How much of this is due to the mere curiosity excited by unusual objects, and how much of our

visual lecture really reaches the brains of our public is difficult to determine but where there is so much interest there must of necessity be some mental uplift, and, on the whole, to interest many people of all walks of life in such an apparently abstract subject as crystallography is, from a museum point of view, to accomplish something.

Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, expressed his high appreciation of Mr. Whitlock's paper and stated his opinion that as much depends upon the method of presentation as upon the subject itself. He stated that some years ago he exhibited a small collection illustrating crystallography but later withdrew it, since it seemed to him that it attracted very little attention and that he could devote the space to better purposes. Very soon afterward the principal of a large school in Chicago came to him and expressed his great regret over the removal of the collection because it had been a valuable link in the work of one of his teachers with her pupils. She was accustomed to visiting the exhibit regularly and making it a part of her course of instruction. Dr. Farrington cited this as an illustration of the very real value of some exhibits which are not of general interest.

Mr. Harold L. Madison, curator of the Park Museum, Providence, R. I., presented the following paper:

VERTICAL INSTALLATION WITHOUT SHELVES

In recent years there has been a tendency to do away with shelves in exhibition cases, and by the use of individual mounts or special hangers to attach the objects directly to the back of the case.

From time to time special devices for hanging objects have been invented and described, but they have been limited almost exclusively to the installation of mounted birds. On account of this restricted use the local hardware store does not carry them in stock. All such hangers require from two to four screws to attach them to the mount and to the back of the case. All are of iron and will rust unless painted or varnished.

One morning while working with one of these specimen hangers, it occurred to me that it should be possible to make use of such stock materials as nails, wire, and screw hooks for hanging objects other than birds, and thereby reduce the use of shelves to a minimum. For

the past two years I have been experimenting with such objects as shells, minerals, corals, sponges, baskets, blankets, vases, and industrial material, and have yet to find any, except extremely heavy objects, that cannot be placed in relief against a vertical background by the use of some combination of screw hooks, screw eyes, copper wire, spring brass wire, common pins, brad nails, and tinned gimp tacks.

The above-mentioned materials have four definite qualifications, namely: they are procurable at any local hardware store, they are small and inconspicuous, they are strong, and, with the exception of brad nails, they do not rust.

While there is evidently an almost endless variety of combinations of uses, it may be said in general that wire goes around objects, or clasps objects with its free ends, or may be made with loops or elongated hooks, as required. Screw eyes and screw hooks are the direct means of attachment to the back of the case, and often may be made to engage with one another as described below. Brads fasten small twigs to the back of the case, and pins occasionally may be used to attach delicate or light-weight objects.

A few directions may help to make the foregoing generalization clear and indicate the future possibilities of installation without shelves.

To hang a heavy mineral or shell, twist a piece of no. 20 copper wire tightly about the specimen and hook it over a brass screw hook which previously has been screwed into the desired position in the back of the case. For less heavy objects of the same kind pass the same size of copper wire around the back of the specimen, cut the wire the proper length, and bend each end into a prong that will clasp the object in much the same manner as the prongs of a ring clasp a jewel in its setting. Sometimes more than two clasping points may be necessary. To hang a basket, adjust a screw hook into the back of the case so that the end will point down; tuck the edge of the basket under the hook; bend the end of a piece of no. 24 copper wire over the outer edge of the basket, then pass the wire underneath the basket and twist it about the shank of the screw hook. Sometimes the base of a basket may be set in a ring of spring brass wire, the ends of which are put into holes in the back or into screw eyes. After setting the basket in place a screw hook may be necessary to hold the top in position.

Small birds, such as warblers and sparrows, may be mounted on very slender twigs (huckleberry bush preferred) that have natural

curves or twists, and fixed in the back with pin-like brads. For specimens on mounts, such as large birds or mammals, fix two screw eyes into the top of the mount near the corners of the back edge, then place two screw hooks into the back of the case at such a distance apart that the screw eyes of the mount will engage with the screw hooks, like hinges on a door, except that the mount will be in a horizontal plane when in place.

The installation of objects by the method described obviously requires much more time and much more care in arrangement than is necessary when the same objects are placed on shelves. There is, however, such a marked gain in the attractiveness of the exhibit and in its esthetic and educational value to the public that one is justified in the use of time so spent.

At the conclusion of his paper Mr. Madison gave a number of demonstrations of the application of his methods of suspending objects of various kinds. He spoke especially of huckleberry twigs as particularly well suited for the mounting of small birds. A question was raised as to the durability of these slender twigs and Dr. W. P. Wilson of the Philadelphia Museums stated that huckleberry is one of the best woods for this purpose, since it is very hard and will last many years.

Professor Homer R. Dill, director of the Vertebrate Museum, State University of Iowa, Iowa City, presented the following paper:

TRAINING MUSEUM WORKERS

Before proceeding with what I have to say relative to museum training work, I should like to forestall any misunderstanding as to what I am trying to accomplish along this line. At the present time the work deals entirely with the science museum. The matters of administration, business methods, and policies which are essential in directing any institution, whether it is a museum, library, or school, are, for the time being, secondary to a thorough knowledge of technique, which I believe to be fundamental in successful museum building. A man may be a good manager and a diplomatic politician with tact and ability to handle a board of directors, and yet fail in the actual results as they appear in the museum. The first essential is a comprehensive knowledge of the work. In order to direct, one must

know the technical side. It is upon this principle that a training course should be based.

There has been some speculation as to the cause of the deplorable conditions existing in many of the college museums. In a former report of the Commissioner of Education, the following statement appears, based on data from the Directory of American Museums: "The founding of science museums by colleges and learned societies was a natural expression of the interest of the time in descriptive natural history. The displacement of that interest by the biology of the succeeding half century, with its emphasis upon laboratory studies in morphology and embryology is the fundamental reason for the large number of neglected and inactive college museums to-day." I believe it is not difficult to find some instances that would seem to verify these conclusions; but, despite this evidence, I am convinced that in the progressive colleges and universities of this country the science museum has a brilliant future.

There was a time when one man, known as a professor of natural history, taught all the natural science in college. This man also had charge of the museum. With the growth of the institution, professors in zoology, botany, and geology were required, and as an outcome of further growth the work in these fields at length became divided to such an extent that we have today a multitude of specialists in every branch of science, each one giving his full time and thought to some detail of the work. In a day of such specialists the general college museum has been naturally neglected. I am convinced that, while the scientific men all recognize the educational value of a good college museum, each one feels that he must devote all of his own time to his special line in order to accomplish necessary results. No one, in short, has come to fill the important function of the old professor of natural science which had to do with the building up of series of natural objects for study and exhibit. This necessary work leaves a wonderful field of opportunity to young men and women who are attracted in that direction.

As I have previously stated elsewhere, "In these days when wild life is rapidly disappearing, and when in many instances the specimens which we are placing in the exhibits of our museums are the last of their kind, the importance of preserving them permanently is brought home to us. The expert of the museum has an account to render with future generations, and no excuse will avail him for not keeping up with the times. During the past five years the authorities of the

leading museums of the country have awakened to these facts, and consequently the demand for trained men and women in this line has far exceeded the supply. The effect has been two-fold: to open within the museum itself an entirely new field of opportunity; and to extend the efforts of collectors to the remotest corners of the world in search of new forms of animal life. Trained men are required also for this pioneer work which furnishes most congenial occupation to the lover of adventure and travel."

At the last meeting of this Association it was suggested that "the preservation and care of museum specimens" be considered at this meeting. I believe that the first requisite in this direction is a well trained man. While it is true that some of the larger museums have trained men to meet their special requirements in a satisfactory manner, a very large percentage of the museums of the country still have obvious need of trained men. The colleges themselves are waking up to a realization of their need in this direction.

Since the introduction of museum training work at the State University of Iowa, many letters of inquiry have come to us. The universal interest expressed is indeed gratifying. The requests for trained men who are strong in museum work and able to teach science have been so numerous, in fact, that we cannot furnish enough graduates to supply the demand for curators and other workers. What better evidence of genuine interest can we produce than these letters? Since certain of those who have expressed an interest in the subject have felt themselves unable to devote a year or even a semester to it, in order to accommodate such persons, we are offering a course of six weeks in our summer session. To determine whether the demand would be sufficient for this special course, a letter of inquiry was mailed to every science museum listed in the Directory and to the universities, colleges, and high schools that have to our knowledge any interest in this direction. A very large percentage of replies was received from the two thousand letters mailed. These replies were convincing as to the desirability of giving such a course; and surely they show better the real condition of the museums than can any statistics gathered from the Directory. It is, furthermore, to be regretted that some of the museums listed in the Directory do not actually exist at the present time, and some, indeed, are mere loan collections. In one case a so-called "college museum" lent to an institution by a wealthy man, upon his death was removed and divided among his several heirs, one of whom tried to sell his share of

worthless specimens to our institution at reduced rates. I also remember, with a shudder, a trip to an attic room in a city building where the most horrible example of this kind was to be seen—strange, weird creatures covered with dust and so begrimed that they no longer bore the slightest semblance to the original animals. Not one specimen had a legible label. The collection had been presented to the city by a wealthy man with the understanding that it should have the care of a curator. The catalog published by this museum was quite elaborate; it contained the curator's name in large type, the names of a board of directors in smaller type, and a long list of the specimens that were supposed to be in the collection. When one had made due allowance for some of the unfortunate animals that were listed under the wrong scientific names, which in many cases were misspelled, this catalog made quite a good showing! In other words, this museum existed only on paper—a paper museum, the only excuse for its existence being the fact that it was a means of a curator's drawing a salary from the city. From such museums as these nothing can be proved as to the conditions that actually exist.

Furthermore, one of the best small college museums in America has not been listed in the Directory. The museum to which I refer is at Coe College, Cedar Rapids, Iowa, where Dr. B. H. Bailey has developed a collection in a most ideal way. Here the Iowa fauna has been represented both in a series of habitat groups and in exquisitely mounted specimens, supplementing which exhibit is a very extensive collection of skins for study. One unique feature of this museum is that the specimens have all been mounted by expert men, Dr. Bailey's ambition being to have represented here the work of each of the best taxidermists in the world.

Among the educational institutions listed in the Directory that are bending their energies to museum development, we might mention in particular the University of Washington, which has a collection that bids fair to become the American Museum of the Pacific Coast. Our own museum at the University of Iowa can speak for itself and for a number of its sister institutions through the Mississippi Valley.

Now I wish to ask: Is it fair to condemn the future of the college and university museum on incomplete and inaccurate evidence? Ought we not to have all of the facts before passing judgment?

A brief outline of the courses of training in museum work that we are offering is as follows: The first year is devoted to the fundamentals of freehand drawing and modeling; laboratory work in the museum is

supplementary. Then the student is allowed to major in any one of the natural sciences, which seem most suitable as a preparation for one who is to make the building of museums his life work. He has, furthermore, a large practical experience in the museum laboratory, where all kinds of specimens are being mounted. An extensive zoological museum is at hand for study and comparison. New methods are continually being worked out for him. He is taught to handle old and difficult skins. In his English work the theory of museum methods is taken up. At the same time he may pursue allied courses, such as chemistry, drawing, and painting, all the time he is pursuing the broad course that leads to the B.A. or B.S. degree. The methods are such that the major part of the manual work may be delegated to a nontechnical man, while the one in charge is able to devote his thought and time to the directing of the work. As a result of this training a number of men have already gone out to fill responsible positions in the larger museums, some of which are the State University of Washington, Seattle; Louisiana State Museum, New Orleans; Royal Ontario Museum, Toronto; Kent Scientific Museum, Grand Rapids, Michigan.

The State University of Iowa derives some compensation from the training courses aside from the satisfaction of sending out trained men. The students, while in training, make valuable museum assistants, both in the laboratory and in the field. Since our men have gone out to fill various positions we have, as a result, come into close touch with institutions that we previously knew little about. And furthermore, if we wish to get specimens from a locality where one of our graduates is located, they can be had in excellent condition for the asking. In more than one instance we have received in this way valuable additions to our collection.

We do not expect to revolutionize the museum world. We know that it is not possible to make a museum director of every student who registers for the work. But here and there we begin to see gratifying results. Each year shows a marked increase in the number of students who take the work, as well as a greater demand for trained men to fill museum positions. Once more, our argument is that such training, while it is indispensable to the man who is starting at the bottom, remains of service to him throughout the degrees of his advancement through the various stages leading to directorship.

I believe any man who has had experience in college and university administration knows well that with all the interests that are repre-

sented and the demands that must be met no department can accomplish anything without a good live man to look after its interest. When the college museum has the right kind of man to direct it, we need have no fears for its future.

Miss Eva W. Magoon, assistant to the curator, Park Museum, Providence, R. I., presented the following paper:

THE MUSEUM INFORMATION BUREAU

It is an accepted fact that some museums answer some questions some of the time, and it may be true that most museums answer some questions some of the time, but would it not be ideal if we could say that all museums answer all questions at all times? The possible objection might arise that it would take too much of the time of the already busy staff. But we are glad to say that, with the cooperation of even a small staff, it has been possible at the Park Museum to establish and maintain for more than four years not only a definite bureau of information where a total of 2095 specific questions have been answered, but also definite, careful records of these questions. There is a two-fold advantage in keeping these records: First, it makes possible a ready reference file for the rapid answering of questions asked more than once; second, it furnishes data for a comparison and contrast of the kinds of things the people want to know, and an idea of when they want to know them. Four years' results of this work were published in the *Park Museum Bulletin*, vol. VIII, no. 6, which some of you may remember.

We note that in the *Museum Bulletin* of the Staten Island Association of Arts and Sciences for April, 1917, there is a brief report of work along this line, and museums like the Commercial Museum of Philadelphia have, for a long time, maintained specific departments for this phase of their work.

The Providence Public Library, according to the researches of its librarian, Mr. William E. Foster, was the first library in the country definitely to establish, in 1891, a so-called "information desk" for the convenience of the public, with a special officer of the staff "to answer questions on special subjects, to assist in researches of students, to assist readers in the use of the catalogue, and to supply other information which readers may need." For several years previous

to this time the Boston Public Library had carried on similar work, but with no distinctive name. To-day it is without doubt a fairly general library practice throughout the country.

Cannot museums, with their highly specialized libraries and their groups of specialists, also meet a definite need of the public for instruction in the same manner? Cannot museums further cooperate with the public libraries, as the Park Museum has been doing, by furnishing help to applicants who come direct from the library for information which the library may not have?

The recording and filing of the material is an important part of the information bureau idea, and it is for an exchange of suggestions that we place some of our results before you.

A brief summary of some of the questions, from various points of view, will be of interest:

Of the total 2095 questions asked in the past four years and four months, 311 (14 per cent) have been asked and answered by letter; 665 (31 per cent) by telephone; and 1119 (53 per cent) by personal call at the Museum. These questions, in 96 per cent of the cases, come from scattered individuals; but 4 per cent represent questions from over 50 different business houses, institutions, and organizations, among them being the United States Department of Agriculture, Bureau of Biological Survey, and Bureau of Plant Industry; the Providence Chamber of Commerce; Rhode Island Fish Commission; Rhode Island Boy Scouts, and many others.

The range of questions has been very wide, as follows:

Identification:

Flowers.....	425
Insects.....	135
Birds.....	105
Minerals.....	102
Nests, Eggs, Reptiles and Batrachians, Trees, Shrubs, Fruits, Galls, and Shells.....	277
Total.....	1044

General and particular questions:

Astronomy.....	25
Reference Books.....	81
Animals, Care, Food for, Preservation, etc.....	351
Plants, Flowers, Gardening, Agriculture.....	109
Animal and Plant Diseases, Pests, etc.....	50
Mosses and Fungi.....	6
Geology and Minerals.....	47
Industries.....	24

Legislation.....	25
Organizations and Institutions.....	54
Laboratory Methods, Suggestions for Nature Study, etc.....	9
Methods of Exhibiting, Back-grounds, Apparatus, etc.....	46
History, Geography, Local and General.....	102
Miscellaneous and Unclassifiable.....	122
Grand total.....	2095

Besides the regulation and regularly duplicated questions, some of the more striking ones follow:

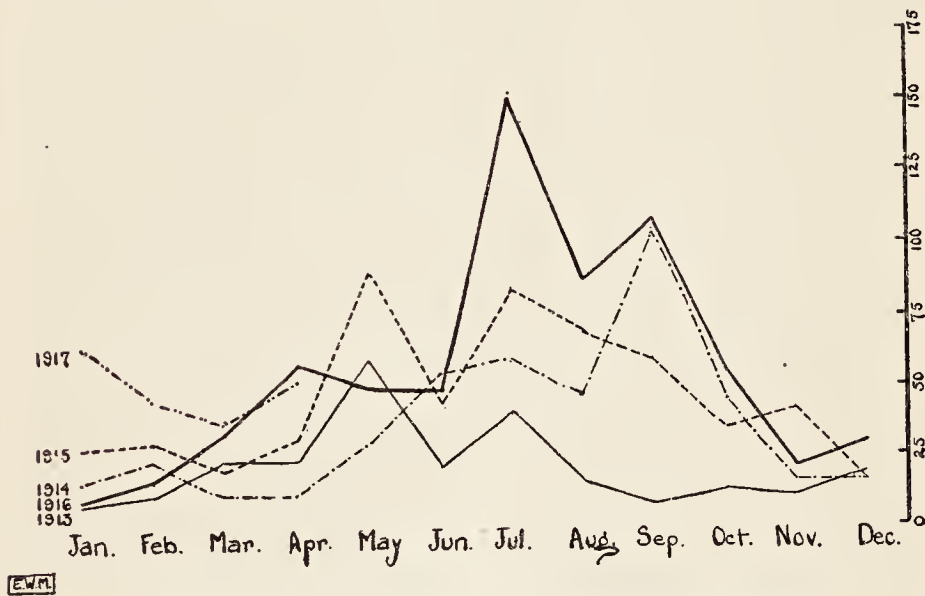
- Where, when, and by whom was corn first discovered?
- What are the causes and remedies for the bleeding of a cultivated cherry?
- What is another name for the bird locally called "Dipper?"
- What place is directly opposite Providence on the other side of the earth?
- Were horses used by Indians during the colonial period?
- Have we specimens of a horse's jaw available for study?
- Where can Indian names for Camp Fire Girls and Boy Scout groups be found?
- Where was King Philip buried?
- What is the highest mountain in the world?
- Where can specimens or pictures of some of the "Moths of the Limberlost" be found?
- What kind of marble was used in the People's Bank?
- How are marabou feathers obtained?
- Is mahogany deciduous?
- Did Theodore Roosevelt win a Nobel prize?
- What are the Seven Wonders of the modern world?
- Where may swans be obtained for a country estate?
- Can a series of questions be prepared for admission to a Boys' Tree Club?
- What species of trees is the Pennsylvania Railroad planting along its right of way to be used as ties?
- Why is it that tobacco is especially abundant in Connecticut?
- Where may a vasculum be purchased?

That these are from a representative public is shown from the fact that the rich and the poor, the educated and the illiterate, the professional and the layman, the busy and the idle, the American and the foreigner, all have applied to the museum for instruction.

For this work the utmost sources of the museum's cooperative means are taxed and appreciated. Among these sources of information which have been consulted for answers to some of these questions are the following: Smithsonian Institution; United States Department of Agriculture, Bureau of Plant Industry, and Bureau of Biological Survey; Public Press; Brown University; Rhode Island State College; Harvard University; Rhode Island Historical Society;

Providence Public Library; Providence Chamber of Commerce; local banks; business houses; industrial establishments; Rhode Island School of Design; Boston Museum of Fine Arts; Peabody Museum; American Museum of Natural History, and other museums. In addition, we frequently call upon a number of local individuals who are authorities along particular lines. This and other considerations have brought about the definite official selection of several advisory curators from this group of specialists, who will act in an honorary capacity as advisors in a cooperative spirit.

A graph of the seasonal rise and fall and annual increase of the questions handled at the Park Museum may be shown thus:



Graphic record of questions answered at the Park Museum

This table indicates that there is a greater public interest in out-of-door things between the months of April and October, when animal and bird life is most active. The height of this interest is reached during the months of May, July, and September. These months mark the spring bird migration, the abundance of wild flowers and insect pests, and the return of vacationists who want to know about things they have seen during the summer.

The table further shows that the smallest number of questions is asked from November to March. This is the time when animals have migrated or are hibernating, and when plant-life is quiescent. It should not be inferred from this table that interest in the subject

of natural history entirely disappears during the winter months, for the public turns its attention from life out-of-doors to the discoveries and experiences of writers and lecturers. The work of the museum swings with this interest, and its courses of lectures for adults and children partially take the place of the out-of-door activities.

Aside from the value which this information bureau experiment is to the public, what have these records to suggest to us as museum officers interested in the effort to increase the efficiency of the natural history museum and the attempt to reach the maximum for all seasons? May it not point the way to a special effort on our part to introduce our local and temporary exhibits at the time when interest in out-of-doors is at its lowest?

One of the secrets of the success of the Park Museum information bureau may be expressed in the words of a woman who had brought in a number of wild flower specimens for identification, "You museum people always seem so willing to accommodate even strangers!" Another excellent feature in our development of the work, is the location of the information desk in one corner of the reading room adjacent to the main entrance hall and most accessible to all visitors. Ideally, it would be desirable to have in charge a competent person not so much of a specialist as a generalist, with a personality equal to cooperating with both specialists and the public, this person to give all his or her time to this work. But we, of a small museum with limited funds, will, for the immediate future, have to be content with a normal growth. Yet we are coming to believe that an information bureau, such as has been described, will eventually become one of the most important features of museum service.

Miss Magoon's paper aroused much interest and was followed by a discussion, in the course of which Dr. W. P. Wilson of the Philadelphia Museums described what is probably the most highly organized information service in connection with any museum in the world—the Foreign Trade Bureau of the Commercial Museum in Philadelphia. This bureau is organized for the purpose of furnishing to manufacturers information on all matters pertaining to foreign trade. It anticipated by nearly ten years much of the present work of the Department of Commerce and Labor, and early obtained from the State Department permission to conduct direct correspondence with United States consuls and to mark out lines of investigation which they should pursue in order to secure information to increase

our foreign commerce. It now has an annual budget of over \$50,000; has forty-five skilled employees, including translators competent to handle fifteen foreign languages; and maintains relations with correspondents and with foreign trade organizations, banking institutions, governmental departments abroad, large public corporations, and individual merchants, so that there is at present scarcely any place of commercial importance in the world in which the Commercial Museum does not possess reliable sources of information. From time to time it sends special commissions and agents to foreign countries where problems of importance are being investigated. It has a list of more than 375,000 foreign firms with information regarding their lines of business and importance in trade. The bureau receives all the official bulletins of foreign governments relating to tariff changes, market conditions, and other commercial matters. It prints on its own presses a monthly journal, *Commercial America*, issued in both English and Spanish, for circulation in the interest of manufacturers in the United States, and a weekly export bulletin containing information of value to exporting manufacturers in this country. In addition to many special subjects the bureau furnishes information on (1) tariffs; (2) shipping; (3) packing; (4) requirements and opportunities of foreign markets; (5) trade mark and patent laws; (6) consular regulations and information relating to invoices and distribution of goods for foreign countries; (8) competition to be met in foreign markets; (9) names of reliable business houses throughout the world.

Mr. Frederick L. Lewton, United States National Museum, Washington, reported that the Smithsonian Institution, finding that the constant applications for information interfered with the work of specialists in many departments and at the same time were not being answered as satisfactorily as was desired, has recently attempted to organize its information service so that each question will be referred to the person best qualified to answer it, thus making the minimum demand upon the time of the staff and securing the best service possible.

Mr. Benj. Ives Gilman, Museum of Fine Arts, Boston, reported that in order to prevent inaccurate or incomplete information being given by minor members of the staff the Museum of Fine Arts has recently provided custodians in the galleries with note books in which visitors are requested to write their questions with their names and addresses. These questions are reported to the superintendent and referred to the department best fitted to answer them.

Miss Louise Connolly, educational adviser, State Museum, Trenton, N. J., gave a most interesting account of the recent reorganization of the New Jersey State Museum.

Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts, Boston, then gave a demonstration of the Skiascope, which he described as follows:

THE SKIASCOPE

A long and unfamiliar name for a small and not unfamiliar thing. The word means *shadow-seer*, the seer into shadows (*σκία*, *shadow*; *σκοπέω*, *to see*). The skiascope uses looking *from* shadow as a means of looking *into* shadow. It has been devised for the purpose of demonstrating a visual principle not yet given the importance it deserves by museum people. *For good seeing, it is more important that the eyes should be sufficiently shaded than that the object should be abundantly lighted.*

To prove this principle, we must provide some means of diminishing our field of view so that the eyes are shaded approximately from everything except the object looked at. The skiascope does this in handy fashion, with the result that we see things well through it in almost any lighting. The instrument has, therefore, at once a practical and a theoretical value. The user not only sees better with it, but also learns that the chief obstacle to seeing things well is, generally, glare from elsewhere.

In artificial lighting, the importance of keeping sources of light out of the eyes is now admitted. The lesson was taught conspicuously at the Panama-Pacific Exposition, and later at the Statue of Liberty in New York Harbor. We have found that the best way to show things at night is not to light them up in the old fashion, by distributing sources of light over them to dispute the observer's visual strength with the objects to be seen, but to show them in a glow, which, though it may be dimmer, contains no brilliant points to deaden the susceptibility of the eyes.

In natural lighting it may be impossible to conceal the sources of light; for example, the low windows or the ceiling-lights of a side- or top-lighted museum gallery. An alternative in case of need is to shade the visitor's eyes; and this the skiascope does.

The instrument consists essentially of a small, light box with flexible sides, open at the ends, lined with black and divided longi-

tudinally by a central black partition, one end of the box being shaped to fit closely against the eyes, and the other broadened to give a sufficient field of view. The flexible sides permit of shutting the skiascope up when not in use. Wires forming a handle turn up out of the way, reducing the instrument to about the size of a small thin book, capable of being carried in a good-sized pocket.

Eye-shades of various form are common. The skiascope is a novelty only in the handy way in which it restricts the observer's view to a small part of the normal field of vision. At a distance of six or eight feet from a wall he sees only a patch of it perhaps four feet high and three feet broad. If the space between two adjacent windows of a side-lighted room is not too narrow, he can inspect an object hung between them without getting the glare from either. The view of an object so placed which the skiascope gives is a revelation. Generally, the window-wall of a gallery is regarded as so much space lost for serious exhibition purposes; or at best is appropriated only for things not needing, perhaps not deserving, to be seen in detail. The skiascope makes the space on a window-wall as valuable, within limits, as any. Unless there is cross-lighting, a window-wall is lighted only indirectly and by reflection from the rest of the room; but this illumination proves, in most cases, quite enough. Not lack of light, but lack of sight, accounts for its unavailability to the unshielded eye.

But the value of an eye-shade like the skiascope is not confined to window-walls. Raising it to the eyes in a top-lighted gallery, a noticeably deeper tone spreads over the pictures, and accentuated lights and shadows appear on the sculptures. We realize that, generally, the fraction of ceiling-light within our view and perhaps, also, illuminated parts of walls and floors have robbed the canvases and marbles of a share of their designed effectiveness.

The museum use of an eye-shade, however handy, will doubtless always be a restricted one. For the occasional advantages it gives, people will hardly care to burden themselves with an apparatus conspicuous in use and needing to be carried about. Yet in galleries abroad the old-fashioned tubular eye-shades are sometimes handed visitors for use in inspecting individual masterpieces. In certain galleries skiascopes might, it would seem, be added to the facilities, such as chairs and catalogs, offered for the visitor's comfort and information. When not in use, the skiascope might hang at the doorways. Especially interested persons would certainly appre-

ciate an aid to good seeing; and the offer of it would give the museum a wider freedom in the use for exhibition purposes of any parts of the interior particularly subject to glare.

The theoretic value of the skiascope is incontestable. The demonstration it gives that avoidance of glare in the visitor's eyes is a prime necessity in museum planning and installation will surely in future lead to the adoption of means to minimize the evil. The skiascope is here offered as a factor in an anti-glare propaganda.

The afternoon session was then adjourned. The evening was devoted to an informal dinner, at which Mr. Harold L. Madison acted as toastmaster.

SESSION OF TUESDAY, MAY 22

Morning

The meeting was called to order at the Metropolitan Museum of Art at 10 a.m., Mr. Robert W. deForest, president of the Metropolitan Museum, presiding.

The program was arranged through the kindness of Mr. Henry W. Kent, secretary of the Metropolitan Museum, and was devoted to consideration of methods of display in museums of art. The papers were presented in part by members of the Association and in part by persons invited to represent methods of art display in other organizations than museums.

Miss Margaret T. Jackson, late assistant director of the Minneapolis Institute of Arts, presented the first paper as follows:

HISTORY AND TRADITIONS OF METHODS OF DISPLAY

The habit of collecting is inherent in the human race. There have always been collectors, and their choice, whether of scalps or wampum or pretty stones or rare butterflies or paintings as their hobby, is indicative of the extent of their civilization.

The origin of all our public collections is to be found in the private cabinets of wealthy nobles or men of prominence, so it is to be expected that the methods of display affected by these individuals should have had their influence on early museum installation. There are, in general, two types of collectors: the one who cares passionately to possess the object of his desire but who hoards it like

a miser once it is his, and the real lover of beauty who buys things for the sake of their excellence and decorative value. As a result, two distinct groups of collections have come down to us. The first is represented by such galleries as the Hohenzollern Museum in Berlin, or the Historical Museum in Frankfort, as well as many private collections which will come to mind readily. (Those of you who were in San Francisco will immediately recall the Memorial Museum in Golden Gate Park.) The second type of collection is the one which has given us all that is best in our modern methods and in its early form is to be seen in the Palazzo Pitti in Florence, the Villa Albani, and private galleries like the Doria and the Colonna in Rome. In this country it is represented by such private collections as the Widener in Philadelphia and Mrs. Gardner's palace in Boston. It is for the first of these types that the opprobrious epithet of "storehouses of dead art" was devised—rooms in which quantities of material were heaped together without classification, arrangement, order, or care, with no attempt to give to each object its own value, with an absolute disregard of the principles of exhibition, and with cases provided with glass doors so built as to admit a maximum of dust and a minimum of light. There was no attraction to the traveler to visit such a shrine; and we can readily understand the statement recently made by Von Schlosser:¹ "It strikes one today as very strange to hear that the old art cabinets of Berlin were visited in the beginning of the nineteenth century by not much more than two hundred people a year."

On the other hand, the methods of display used in the galleries of the princely amateur were very different from our modern ideas of museum fitness. Here the objects were shown as part of the decoration of a room. Paintings were often cut over to fit some special place; portraits reduced or enlarged to conform to some design; Chinese vases placed on tiny brackets at intervals, even up to the ceiling, simply as part of the decoration; tapestries hung in picturesque folds or used as curtains at doors and windows; nothing mattered so long as the effect of the whole was rich and varied.

Historically, details of installation are very meager until about the seventeenth century, when we have the descriptions of travelers. These are usually fragmentary and must be pieced out, partly from

¹ Kunst und Wunderkammer der Spätrenaissance.

our knowledge of collections as we find them today, and partly from a study of old engravings and catalogs.

In the year 1688 the French traveler Misson visited Italy. His descriptions of his journey include all the stops he made in Germany and Switzerland on the way. Among the interesting places which he visited was the castle of Ambras, near Innsbruck, which contained the collections formed by the Grand Duke Ferdinand of Tyrol about the middle of the sixteenth century. These were very important and interesting, and are particularly worthy of mention here because they are still extant, though they now form part of the extensive imperial collections in Vienna.

The armor was very valuable. It was arranged in a gallery especially designed for it, and probably presented much the same appearance as the Riggs collection here in the Metropolitan, for we are told that there were representations of people mounted on their favorite horses and bearing all the trappings and accoutrements they had worn when living. Against the walls were arranged single parts of armor in groups. The minor arts occupied, in another wing, a long gallery lighted on two sides, and were arranged, as Misson tells us, in "a double row of large cupboards which are joined by the backs and sides and fill the middle of the gallery even to the top so that there is but a narrow space left to walk round." There seems to have been a classification by material, but there is no mention of backgrounds or labeling. The only details of interest to museum people are in regard to the installation of the coin collection. "There are also seven great volumes covered with black velvet with plates and clasps of silver and instead of leaves they contain flat boxes in which there is a great number of medals so that these seven volumes contain a complete history." After describing in detail the contents of all the cases Misson mentions that "there are a great number of things fastened to the ceiling and walls," from which we may conclude that this collection was overcrowded, like many another.

Turning now to the title pages of some of the old catalogs which show museums interiors, we find that the usual arrangement in the seventeenth century was in a long narrow room, lighted sometimes from one side and sometimes from the end, and provided with open shelves more or less elaborately built and inlaid according to the means of the owner. Sometimes the collections, especially of natural objects, were contained in boxes placed on these shelves and labeled

“radices, salia, terrae, varia, etc.,” and sometimes a series of drawers of uniform size was provided.² Almost invariably the ceilings are hung with a quantity of miscellaneous objects.

We have one more source of information in the portraits of princes in their galleries, such as the series by Teniers illustrating the different rooms of the Brussels Gallery under the Grand Duke Leopold William. Three of the series are in Munich and one is in Brussels, but by far the best is in Vienna. In this the Duke stands with his friends in a large room lighted from the side by windows reaching to the ceiling. At right angles to the window-wall there are partitions upon which hang his paintings. At the bottom are portraits hung close together, while above are other paintings in the order of their size, the largest ones at the top. (One is struck by the ingenuity of some of the older curators of collections in fitting the paintings so closely together that no space is left anywhere between frames!) On the floor stand more pictures, evidently recent accessions, supported by chairs in a way to get good light. This is but one of the typical representations of this type of exhibition. It is interesting to note that panel paintings rarely occur in these collections. Very often the old frames have been removed from the pictures so displayed and a uniform molding used on all.

There are few of the public galleries today in which such arrangements are to be seen. Every collection of sufficient size to have the pictures so hung contained a large number of inferior paintings, and during the last twenty-five years our more modern museum methods have called for the suppression of the inferior and for the exhibition of the superior paintings in an atmosphere of isolation and refinement. Of the old style of galleries, the one in Cassel is a typical example, and has not, so far as I know, yet been rearranged. The Pitti palace in Florence has the same arrangement, yet it is somewhat modified by the character of the decorations of the rooms, which are so rich as to preclude the possibility of too many rows of paintings one above another. The paintings also are so much more wonderful in quality than those usually found in such crowded arrangements that one readily overlooks the fact that they are hung so close together.

Of the collections of sculpture still arranged in the old way, the Museo Chiaramonte of the Vatican is a typical example. These

² See *Museum Calceolarium*, 1622; *Museum Wormianum*, 1655; Browne's *Travels*, Nuremberg, 1711.

sculptures were collected like potsherds, and are arranged in much the same manner. They are inferior in quality, and so have never received any particular care or attention. One is tempted to trace the parallel between the method of display here and in the crypt of the Capucin church in Rome, where the bones of the monks are arranged in such grotesque and awful masses. But there are comparatively few of these badly arranged collections of sculpture in European museums, and our own craze for collecting has not led us to the acquisition of such quantities of sculpture that the problem of overcrowding has arisen (at least with originals!). This is the basis of all poor exhibiting. When a collection becomes overfull, if the collector has not the courage to weed out the inferior pieces he will never be able to keep the arrangement attractive. An old engraving of the Musée Napoléon is interesting in this connection. Here we find the light coming from above, the walls hung with heavy drapery, the statues on simple pedestals, not overburdened with members, as are some of those in the Vatican, but the note of incongruity comes in the heap of armor piled at one side like spoils of war, and in the looped-back curtains which disclose open shelves on which rare vases are exhibited at a height considerably above the visitor's eyes.

The worst offenders, however, in olden times against our modern ideas were those historical and industrial art collections which can be so wonderfully interesting when properly installed and which yet can be so tiresome when not arranged with care. The familiar tradition for the exhibition of historical material is according to personages, and nothing can be more uninteresting than the usual case of personal relics where shoes, dresses, letters, china, furniture, fans, swords, ribbons, and even faded flowers are thrown together without rhyme or reason except that all were once connected with some personage of distinction. Such memorials are pathetic survivals of an unscientific past. There are objects which have value in a museum and others which have none. Costumes, uniforms, medals, all have their place in our collections; faded flowers and similar sentimental nothings should be kept out.

For the traditions in regard to the installation of minor arts we may turn to the illustrations in an old catalog of the paintings in the Vienna Gallery.³ Here we have representations of the walls of the

³ See Storffer, *Bildereinventar der Wiener Galerie*.

gallery, which are divided horizontally in three parts. The lowest contains alternately deep and shallow cupboards with glass in the doors, through which can be seen a miscellaneous collection of metalwork and porcelain. In order to inspect it the visitor would be obliged to get down on his knees. The second tier consists of shallow cupboards, with a larger proportion of glass surface alternating with solid panels which act as bases for the statues above. These cupboards contain a very interesting collection, not overcrowded, of ironwork, medals, enamels, ivories, rings, small statuettes and paintings, etc. The third tier shows paintings uniform in size and framed alike, arranged in groups of three: a central subject, nearly square, flanked by two narrow portraits. In front of these paintings and arranged along the top of the cupboards already mentioned, are little statues about two feet high, perhaps of some sort of porcelain.

These, then, are the traditions that have been handed down to us. The last twenty-five years have seen a marked change in all methods. Museums are now a part of the educational system, and with this development has come a systematic study of the scientific care of art objects, in order that the heritage of the past may be transmitted uninjured to the future. Methods which were picturesque are no longer approved; each object must be so placed and so cared for that it will appear always at its best. The principles of design are now used in arrangement, and above all, the standard of quality has been raised by the division of collections into study and exhibition series. Although the movement began as early as 1890, the majority of these changes have come about since the Mannheim Conference in 1903, and few indeed are the museums now installed in the ancient manner.

The second paper was presented by Mr. Joseph Breck, director of the Minneapolis Institute of Arts, Minneapolis, Minn., as follows:

GENERAL PRINCIPLES OF DISPLAY IN A MUSEUM OF ART

The twofold purpose, esthetic and educational, of the modern art museum requires something more in the way of installation than the mere safeguarding of collections against theft or injury. It is hardly necessary to labor this point. We may come at once to the question: What do we mean by installation? Aside from the safeguarding of material, which is, of course, a fundamental consideration, it seems to

me that good installation is accomplished when objects are shown to their best advantage as independent works of art, and at the same time are so displayed that the educational use of the material is facilitated. It may sometimes be necessary in working out details of installation to sacrifice one aim to the other, but this possibility is reduced to a minimum when a consistent plan of arrangement, based upon the nature of the collection, the building in which it is shown, and the purpose for which it is exhibited, is determined in advance and systematically followed.

The nature of this plan must, of course, vary in different museums, since they are alike in neither the size nor the scope of their collections. It would appear, however, that the trend of museum development is toward a very definite ideal in this respect, and we may assume that the typical museum of the future, like so many institutions of the present, will not be limited to one kind of art or to the art of one country, but will admit to its collections examples of both the fine and the applied arts of all countries and of all times. Whatever may be true of the future, the problem that confronts the majority of art museums today is undoubtedly the effective display of a great variety of material.

Let us consider this subject first from the point of view of the general plan of arrangement. I propose to discuss three basic plans of installation: (1) arrangement by material; (2) arrangement by period; and (3) a compromise plan of arrangement which borrows features from both.

Although arrangement solely by material has many defenders, this method of installation, I believe, is steadily losing favor among museum people. The plan has obvious advantages for the student, but it may be seriously questioned if it is well suited to the needs of the general public. The average visitor in a gallery containing, let us say, nothing but English porcelains is very apt to examine thoroughly only a few pieces and then to wander from case to case with aimless, idle curiosity—mentally wearied in advance, one might say, by the apparently endless array of specimens that seem to be all pretty much alike. We must remember that the motive which brings the average visitor to the museum in probably the majority of cases is simple, undisguised curiosity. The duty of the museum is to guide this curiosity into the most profitable channels. The visitor should be ambushed, as it were, into experiencing some esthetic pleasure or into acquiring some useful knowledge or both! If the visitor is bored by the sameness

of the exhibits, if he is allowed to be appalled at the very start by the vastness of the collection to which his attention is invited, this precious motivating curiosity will surely be deadened or dissipated in useless ways. Personally, and I am quite sure that the man in the street agrees with me, I think arrangement solely by material is inordinately dull—not for students, perhaps, but after all students constitute only a small proportion of the visitors to the average museum. It is argued therefore, on very plausible grounds, that arrangement strictly by material fails to meet the needs of the greatest number.

Arrangement by period may be defined as the grouping together in one or more galleries of works of art similar in style and of the same period without regard to material. In one gallery, for example, may be exhibited Gothic tapestries, paintings, sculpture, metalwork, and so forth. If the collection is large enough to warrant it the material may be again divided, still under the main classification by periods, according to country or according to the chronology of the period, for instance, early or late Gothic. This plan of arrangement, like the former, has both its advantages and disadvantages. Its conspicuous virtue lies in the fact that the average visitor, I venture to state, finds this method of exhibiting collections more interesting than any other. His attention is stimulated by the variety of objects shown, and under these favorable conditions there is the best of chances that a work of art will be appreciated as such and not merely as an illustration to a label! But even from the educational point of view the value of this plan of arrangement is obvious. Unconsciously the visitor gains an idea of the diversity of expression in any period of art, and learns to recognize the inspiration underlying the different manifestations of the art spirit of the time. Two further advantages may be mentioned: First, it is generally possible, owing to the varied character of the exhibits, to arrange a room that will be enjoyable in itself as a work of art. Secondly, the plan is well suited to the needs of museums having small collections, since it is quite possible to start a period room with a comparatively limited number of objects.

As to disadvantages, I think the principal objection lies in the necessity, if one would be consistent, of maintaining a strictly balanced development of the museum's collections. In respect to the older periods of art this condition may not present much difficulty, since the rarity of the objects ordinarily serves as a check on the excessive development of any one particular class of works of art. But in respect to modern art, proportional representation of the fine and

applied arts seems to be encompassed with great difficulty. How many museums are confronted by this situation: a collection of modern paintings out of all proportion quantitatively to the representation of the modern applied arts! In such a case, if all the modern paintings are exhibited—and perish the idea of dead storage—they will so dominate the other exhibits of modern art that through mere force of numbers the installation becomes automatically “by material” rather than “by period.” Arrangement by period, when it is the only plan of installation pursued, is unhappily subject to these inconsistencies. There is only one solution, and that requires superhuman courage—the banishment of excess material to storage.

The third plan of installation, a compromise between arrangements solely by material and solely by period, avoids many difficulties from the start by making a clear distinction between exhibition of collections intended for the casual visitor and supplementary collections intended for the student. The plan, in brief, comprises on the one hand a limited series of galleries for the general public, where collections will be arranged consistently by period, and on the other hand an unlimited series of galleries where collections will be grouped according to material and in such a way as to serve best the needs of the student.

In a museum where this plan is followed, some thirty to forty galleries will be set aside for general exhibition purposes. (The number is open to argument, but I doubt if the average man can visit profitably more than that number of rooms.) These galleries will be distinctly separated from the rest of the building by architectural plan or other means. In them will be exhibited, according to period, selected examples of the fine and applied arts, frequently changed by drawing upon the study collections. There will be no galleries, even in the period of modern art, devoted solely to the exhibition of paintings or any other separate class of objects. Together with examples of contemporary paintings will be shown examples of contemporary furniture, textiles, ceramics, and so forth. These galleries will not be crowded with exhibits, nor will they be too numerous in themselves. Every effort will be made to create an intimate atmosphere. The rooms will have the same orderly beauty of arrangement that one finds in a beautiful private house. There will be comfortable seats, proper lighting, harmonious backgrounds—everything that invites and facilitates the full enjoyment of a work of art, everything that will help to drive home the idea that art is something that may enter into the very fabric of our daily life.

These general exhibition rooms arranged by period are intended primarily for the casual visitor. For others who come to the museum with a definite purpose in mind the remainder of the collections will be classified by material and arranged in galleries that will be accessible to all, but not so located that they will readily attract the casual visitor out of his destined orbit. Where these study collections are located is not particularly important. The important thing is that there should be a well-defined distinction between the two sets of galleries. In these study collections, where curators may classify and group, label and chart, to their heart's content, the educational purpose will, of course, have precedence; but even so I venture to suggest that bad taste in the display itself is not necessarily a concomitant of science.

I have given the greater part of my time to this question of general arrangement because I consider it to be one of the most important factors in good installation. The brief time allowed me does not permit even a casual examination of many other matters that are equally important. I should like to discuss, for instance, the architectural problems of good installation, particularly the important question of the architectural treatment of the so-called period rooms. Is it desirable to reproduce or to suggest the architecture of the period, or should a strict neutrality in style be observed throughout? I may take just a moment to say that if it is impossible to obtain original interiors for such rooms, I favor a neutral treatment that will be in harmony with any kind of material displayed.

The question of wall treatment is another important matter. Again let me say, without discussion, that I believe the most satisfactory wall treatment in the average museum is the painted, rough-cast plaster wall. There are disadvantages, naturally, but they are more than offset by great possibilities in the way of securing agreeable texture and color, and by inexpensiveness. Personally, I think almost anything is preferable to the dirty, nail-marked fabrics that so often disfigure our museums.

Cases, as we all know, are a very important factor in proper display. I need not take up this matter, as several excellent papers on the subject were presented at your last meeting. I would suggest, however, for future consideration a similar thorough study of the matter of pedestals.

In any discussion of installation labels should have a prominent place. How much information are we to give and how little? I

think the chief purpose of a general exhibition label is to answer those first instinctive questions that a visitor asks as to who did it, and when, and what it is; so that as soon as possible he may be ready to give his undivided attention to the object itself. The danger of answering these questions in any great fullness, except when we are dealing with study material, is that a secondary interest may thereby be set up which will distract the visitor's attention rather than concentrate it upon the work of art. But I shall not attempt to discuss further this question of labels, as I wish to use my brief remaining time for some comments on the actual display of the objects themselves in cases or on the walls.

In exhibiting a study collection it is, of course, essential to decide first upon the educational purpose the immediate arrangement is to subserve. The collection may be frequently rearranged, in fact it should be. The curator is more apt to suffer from an embarrassment of educational possibilities than from any absence of them. But whatever plan is pursued, good taste should dictate as far as possible the actual display of the objects. In study material beautiful display must sometimes be sacrificed to other needs, but elsewhere it should be the first essential of good installation.

A gallery wall or a case should be regarded as an artist regards his canvas, as a definite space to be decorated. In achieving this the principles of pure design must be observed; the effect must be orderly. Of these general principles, a knowledge of the laws of balance will be found particularly helpful in display. The obvious symmetrical balance of objects that are alike is, of course, well understood. Less familiar are the principles of asymmetrical balance, which are most useful in securing variety and charm of arrangement. The "yard-arm balance" has great possibilities in this respect. The theory is that, given two objects to balance, they will be distant from the center of the composition (that is, from the center of the wall or the case) in inverse ratio to their power of attraction. In other words, the weaker will be farther away from the center. If we are given two objects that are alike except in size, one being twice the size of the other and consequently a greater attraction, the smaller will be twice the distance of the larger from the center. But the occasion is rare when objects to be exhibited differ only in size. It then becomes necessary to estimate the individual force of the different objects as attractions to the eye. Of two objects, one may be very much smaller than the other but because of its more brilliant color or because of its more

intricate decoration may attract the eye quite as strongly. In that case, both objects will be placed at equal distances from the center. It is easy to see that this form of balance permits great variety in the display of objects. The principle is of value not only in the arrangement of cases but in other forms of installation, for instance, in the arrangement of pictures in a gallery. If we place on one wall a large picture that attracts us first of all by its size, it may be balanced on the opposite wall by hanging a small picture that because of its vivid colors will have the same force of attraction as the larger, more subdued painting opposite it. There are, of course, other principles of design that must be kept constantly in mind, principles of harmony, rhythm, etc. It is very important, for example, to consider a room not as four separate walls, but as a continuous space over which the eye must be carried in a pleasing way, passing from one object to another without abrupt gaps or transitions. But it is clearly impossible to enter into any detailed discussion of these matters at this time. I can only say in conclusion that I believe a thorough study of the principles of design, notably such a course as that offered by Dr. Denman W. Ross at Harvard University, should form an important part of the training of every museum official.

The Chair then introduced Mrs. Schuyler Van Rensselaer, who presented the following paper:

THE VISITOR'S POINT OF VIEW

I would like to say a few words on what the museum is worth to children, because I have been brought to think of it much lately. Yesterday I was at a meeting of a war relief committee, where relief for children in Europe was considered; and the discussion showed the value of the present generation of children. When one thinks of the millions of young men being killed, one realizes that the generation of children now growing up is the most precious of any generation ever born, and one realizes also the great necessity of their training. This is the thing today that demands particular attention, and I feel that no one need think that he is not doing patriotic service who is helping to train children.

Of course, art and beauty would not be enterprises for the present if we did not think they have to do with the future of the nation. I

was reading the other day Powers' *Message of Greek Art*: "It is to the enlargement of the beauty sense rather than to the appreciation of technical cleverness that art education should be directed." And again: "There are few categories which can be so greatly enlarged by education and deeper insight as the category of beautiful things."

The ugliest things you can see in New York are the great rooms in the department stores where they show "objects of art"; but, however ugly they are, they prove a desire on the part of the public for beauty. If people were contented without them there would be no reason for such a display of awful things. Their taste is bad, but their desire is good. One day I counted twenty-five small pictures in the house of a dressmaker and in another room there was no single article of plain, simply designed furniture—nothing you would be willing to live with. Everything was hideous and elaborate, but it proved that the woman wanted to get something that would please her. Her taste was atrocious but she had spent time and money in getting what she thought was beautiful. It is the task of people in your profession to train the taste whenever the desire is already there, and to train the taste of children especially. The best is none too good, and very often they appreciate the best.

I was for a number of years chairman of a committee that puts works of art in public schools. It had never been done before this committee took the matter up, and in our experiments we submitted ten or twelve large photographs for girls about fourteen to choose from. They knew nothing of art; they had never been taught anything about art. The pictures were of all kinds. Le Page's Joan of Arc was the first choice of about thirty-five girls; the second choice was a photograph of the church at Stratford-on-Avon. It seems to me that was a good evidence of taste. Their elementary instincts were good.

In another case we had a number of photographs of works of sculpture. The smaller children picked out the Lion of the Piræus, preferring it to any other picture in the school.

The principal of a primary school told me that she took as a subject for a Christmas composition one year Madame Le Brun's portrait of herself and her child. One little Italian child wrote: "I wish my mother would hold me the way the lady is holding her little girl." You see that picture was having a good influence and that there is such a thing as cultivating sentiment in a child through art.

To teach children to love beauty means moral beauty—beauty of character—as well as art. A woman objected to putting the portrait of Lincoln in the schools because he was so homely. She said she didn't mind Washington—he was good looking. That seems hardly a principle to go on.

An important practical problem is to make things comfortable. When I was a child I had a large book of Froissart, but the print was so small I would not read it. I had also a beautiful copy of Plutarch's Lives in large type, and that I was very fond of reading. It is the same with an art gallery; if the objects are easy to see, people will look at them; otherwise they will not.

I never enter this museum without thinking how I should have adored it when I was a child. The museum didn't begin to grow until after I did and I had to look for what I wanted elsewhere. Even after I was grown the museum was not so attractive as it is now. I haunted picture shops. Well do I remember my joy when my father brought home some pictures from Europe! I was sixteen when my sister and I were taken to Europe and there we haunted the picture galleries. We had never had any instruction in what we should like and had never read anything but Ruskin, who contradicted everything the catalogs told us. So we just looked at pictures and that was the way we learned.

Whether a children's museum is advisable or not, I do not know; but I do know that nothing should be brought *down* to children's minds—that ruins a child's love of art and spoils his taste.

I was asked to speak for the public—a large task—and I want to say that I think it is a duty to develop love of beauty in children by giving them special attention. Art should be taken into our daily lives. Not everybody will acquire a love of art, no matter how much you show him works of art; but some will acquire a love of art and make it worth while. So put forth every effort you can in this direction, for if the great public could speak, I think it would say, "Take care of the children; they are the most precious generation of children that has ever lived in the world."

The Chair introduced Mr. W. Frank Purdy, in charge of sculpture with the Gorham Company, who presented the following paper:

METHODS OF DISPLAY IN SHOPS

The attitude of the curator or director of a museum is that of a caretaker, one who cherishes; while the attitude of the shop keeper like myself is that of one who gives. We try to awaken in the minds of people the desire to possess. Our attitude when a client comes to us is to uncover. Instead of closing the case and screwing it tight, we open it up and invite him to help himself.

I do not think it is possible for children and young people to understand fine or applied art that they cannot touch. I presume some of you are aware of the existence of the little Graphic Sketch Club which was started by a wide-visioned young Philadelphia business man some years ago in the slums of Philadelphia. The doors of that club are never locked. In the two galleries the cases which line the walls are filled with ivories, crystals, and precious ceramics, and the cases are so far from being locked that the doors are ajar, so the Italians and the Germans and the Slavs who live in that particularly slum district can come in day or night and help themselves to these precious things. I was there one afternoon myself when an urchin whose clothes were tattered and whose toes were showing through his shoes came in with two others like himself. Tiptoeing across the room, he took out a beautiful crystal ball and after explaining most interestingly to those little boys that it was a crystal and not glass, carefully put it back. I am told that during the eight or ten years that the club has existed many of those street urchins have won some of the best prizes at the Pennsylvania Academy. One, at least, was the winner of the Prix de Rome and now occupies a most responsible position in an art institute. But what I am trying to put in your minds is that in the eight or ten years of the existence of that club where the doors have remained open not one piece has ever been lost. I have sometimes questioned whether the law of the influence of the beauty of art is not stronger than the law of the land. I know past all doubt that the hands of the dirtiest street urchin that will come into any museum will never soil the finest object of art that you have there to show him. It will be hallowed by his touch.

Mr. Frederick A. Hoffman, in charge of window dressing with B. Altman & Co., presented the following paper:

WINDOW DISPLAY

The term "window display" is quite difficult of exact or comprehensive definition. It concerns not only the artistic presentation of merchandise in a show window facing the street, but also the harmonious and attractive arrangement of merchandise within the building itself. In either case, there are two dominant and inseparably connected effects which it is sought to attain. First, it is imperative that every scheme attempted in the realm of window display must answer the main purpose of the business, and second, every decorative creation should meet with popular approval.

It can with truth be said that window display has advanced from the condition of an embryonic art to one that has assumed a dignity and importance almost parallel to that of painting, sculpture, and architecture. This statement may seem at first blush a gross exaggeration, but when it is considered that so many elements, scientific and otherwise, enter into correct merchandise display, the comparison will not seem in the least overdrawn. It is an evidence of the splendid development of the art of window dressing that a gathering of this nature, under the excellent auspices of the Metropolitan Museum of Art, should wish to hear something concerning this interesting calling.

Back in the early years of window display work, nobody would have thought of asking a window dresser to take part in the deliberations of a gathering of this artistic character, but today, although the display manager of the modern big store is no less a commercial influence than any other factor in merchandising, the display man has managed to struggle upward to that point at which men and women like yourselves, who are possessed of real understanding and appreciation of art, now recognize that there is something more in the arrangement of a good shop window than a mere knack acquired just as facility may be gained in the doing of any mechanical thing. Window display, like every other art, has been evolutionary in character. It has gradually ascended from a foundation of crudity, until today it calls for the forthputting of the most earnest endeavors of a cultural kind, to meet the exacting demands of high-class merchandising.

The window man must remember that, no matter how beautiful his windows may be, the store would not continue them unless they made easier the sale of merchandise. Many of the world's famous

artists gave their lives to the production of great works of art, and failed to receive in their lifetime the appreciation that the world has since accorded them. No matter how earnestly the window decorator may wish to follow the highest ideals, it would be impossible, because his masterpiece is made *today*, and is removed and done away with *tomorrow*. He must find immediate appreciation, or his work is dissolved. Moreover, he must put into his art an element which no other artist is expected to incorporate; that is, there must be a subtle suggestion of other beautiful things within the store. Not only must the goods in his window be arranged with the idea of getting the happiest effects by the observance of all the laws of color harmony and composition, but the picture the window man builds must lead those who view it to desire to possess the things on display, or to enter the store in search of something which has been suggested by the exhibition in the window.

The man who works sincerely and enthusiastically at the window art is constantly struggling between two influences: On the one hand, there is his own love of the beautiful and his inspiration to create exquisite effects, and, on the other, the stern fact that the window must help to sell the goods.

You ladies and gentlemen, who know what art is and feel the love of it, may wonder how, out of such conditions, an art could develop; and yet we have only to look around at the windows of the shops in any city in the land, and compare them with what windows were many years ago, to find proof of the tremendous progress that has been made toward developing window trimming into a real art.

Just for example, let us take the subject of color. You know what a dangerous element color is in any art which must appeal to a large number of people of diversified ideas and tastes. The window artist has always found color an extremely difficult part of his work. If he uses this color and that together, it may attract some, but it certainly will repel others, and the purpose of the window is to bring business. This, of course, means that the window artist, unlike other artists, cannot give free reign to his handling of colors. He must gradually bring his audience to an appreciation of color. As an instance of this, let us take these sample cards. Had the colors represented in this group been assembled in a window display some years ago, the window man would have disgraced his store as well as himself. The fact that today such an arrangement as is presented on these cards is regarded as beautiful is an evidence that

the window trimmer and the public have been educated simultaneously, on a constantly broadening scale.

When emphasis is placed upon the statement that the creations of the window artist must draw business, it is not meant that the displays must actually draw increased business directly. It is important that the windows should bring direct business, but it is still more important that the people who see our window exhibits should be influenced in the conceptions they get of our store and of the goods we carry. If our windows bespeak taste and judgment, the public in time will come to ascribe those qualities to all our merchandising operations; and if our method of display contributes to the pleasure and the satisfaction of the man and woman who look upon our windows when they enter the store, the visitors will be in a more receptive mood, have an open mind, and a disposition implicitly to trust our judgment.

We might go on and dissertate on the principles of composition and color upon which the window man builds his displays, but these fundamentals are the same in whatever field the artist may seek to give expression to his ideas. Whether the average window trimmer realizes that all colors are contained in a ray of white light and has analyzed white light with a prism to see the natural relationship of the various colors, or whether he has just learned from experience, he knows certain interesting things about how colors must be placed in their relation to each other in order to bring out the effect for which he is striving. He knows, for example, that a light color may be made to seem deep in tone by placing it against a light background; he knows that it would spoil violet to show it against a light background, whereas violet shown against black becomes a bright and glowing color. He knows that many colors that seem very gray may be brought out to be light by placing them on a dark background. He knows that two tones of the same color, one strong and the other weak, do not make a pleasing combination. Bright yellow, he has proved, when placed on a dull straw color, robs the straw of its quality. Every day, he has the chance to demonstrate that any color shows brilliantly against its opposite. A dull pink shown on a background of light red or orange loses its value; such a tone can be seen better on a neutral background, and on a background of green it becomes actually brilliant. The window man knows that combinations of three colors are likely to prove more interesting to the man or woman on the other side of the glass than a combination of

two colors. He knows, also, that certain fabrics with a specified finish, whether dull or lustrous, soft, fine, transparent or otherwise, materially affect the whole setting.

It may interest you to know something of the way in which the art of draping costumes from uncut piece goods came to be developed. The best productions of the window decorator are as truly a work of inspiration as are other fields of art, and although on some days one could drape forms in pleasing new costumes one after another, without any effort, at other times it is almost impossible to make the materials go the way one wants them to.

A little more than a quarter of a century ago, the first draping was attempted with seven-cent-a-yard calico which was made up in the form of a dress. Today, our display staff applies this same art by draping twenty-five-dollar-a-yard silks and trimming them with one-hundred- or two-hundred-dollar-a-yard laces. It is needless to tell you that in handling such materials it would never do to cut the goods, nor to mar them with unnecessary folding. The window artist must be prepared always to show a new drape, and the costumes must stand all day in the window in the natural light, ready to meet the most critical person on earth—the American woman on a shopping tour.

The scope of this paper does not permit of a discussion of the various other phases entering into effective window display. Suffice it to say that in the showing of merchandise certain underlying principles must always be observed, as in any other art, and the principles must be applied in such a manner that the whole shall be harmonious and orderly and possess meaning. Due attention must be given to the elements of utility and beauty. The arrangement must arrest attention, not in an obtrusive way, but rather in a dignified, quiet manner; and the outstanding factor must be that the display should be relevant to the business. It is axiomatic that goods well shown are half sold.

Window and store display reflect the character and ideals of the establishment. It is said that over three hundred thousand visitors come to New York daily, and the first, and sometimes the only, impression gained of our house is through the appearance of the building and the show windows. It is obvious then that if the window artist put into the display his very best, combining the niceties of art with an appreciation of the requirements of the commercial, he will interpret to the public the standing and quality of his store, and

the passerby will be prompted by an impulse to cross the portals, even as the reader of a book is attracted to an examination of the contents of the volume by the suggestion of the title or the appearance of the binding.

The experienced window dresser will, of course, resort to intelligent planning, and arrange the display in a room specially provided, before actually putting the exhibit in the window. This procedure will save much time and untold annoyance, and permit of any necessary changes in arrangement so as to present an harmonious and complete whole.

When it is considered that the modern store has perhaps seventy-five different departments, and deals in wearing apparel, home furnishings, and adornments of practically every description, coming from every clime, and representing modern, as well as antique, creations, it must be admitted that window dressing presents a field for study and research which is absorbingly interesting, and which never becomes monotonous or exhausted.

In closing, it may not be amiss respectfully to suggest that it would be pleasing as well as profitable to those present to view the art of window dressing at close range, by making a trip through Fifth Avenue, the greatest retail shopping center in the world.

For comparison with the methods of display in art museums the subject of display in other classes of museums was then discussed by Dr. Frederic A. Lucas, director of the American Museum of Natural History in New York, by Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, and by Mr. Charles R. Toothaker representing Dr. W. P. Wilson, director of the Philadelphia Museums who was prevented by illness from being present.

The preceding papers were then opened for discussion. Mr. de Forest expressed his agreement with Mr. Breck's opinion that the arrangement of exhibits strictly according to material is unsatisfactory, and that arrangement by periods is greatly preferable. He recognized the limitations imposed by the architectural plan of museum buildings and by the nature of the collections to be installed. He felt that some such compromise as suggested by Mr. Breck usually must be adopted, but he hoped that efforts will be made in future to bring together the decorative arts of particular periods in contrast to the present tendency to exhibit textiles, ceramics, metal work, or glassware by themselves.

Mr. Purdy asked if it would be practicable for the museum to provide at least one room in which changing exhibits might be made of objects that can be handled by visitors. The Chair requested Mr. Breck to answer this question, and Mr. Breck stated that he had tried the experiment of exhibiting chairs without the usual straps across the front. Visitors soon came to feel that it was not proper to sit in these chairs or to handle objects exhibited without the protection of cases. He thought that only a limited amount of material can be shown without some form of protection and that it should not be forgotten that the first duty of the museum is that of safeguarding its collections. He confessed that he was unable to harmonize conflicting elements in the problem. Mr. Purdy said further that it is impossible to appreciate the full beauty of a piece of sculpture except by touch and that so far as bronzes at least are concerned the effect of handling is to render them more beautiful. Mr. Gilman agreed with Mr. Purdy that the fineness of the best carving and sculpture can be appreciated only with the use of the hands. He recognized, however, the difficulty of according this privilege to museum visitors.

Mr. Frederic A. Whiting, Cleveland Museum of Art, Cleveland, Ohio, stated that the discussion had been exceedingly suggestive to him and that he had it in mind to try the experiment of exhibiting a few pieces of comparatively inexpensive pottery and a few bronzes in such a way that visitors may handle them. In emphasizing the point already made with regard to the importance of touch impressions he referred to an authority on Japanese pottery who is said to be able when blindfolded to tell by handling a piece of Japanese pottery not only the province but the kiln and the name of the man who produced it. Mr. Whiting then expressed his appreciation of Mrs. Van Rensselaer's point with reference to museum fatigue and stated that at the suggestion of Mr. Kent there was placed in the center of the new building of the Cleveland Museum of Art a room, about 45x80 feet with a fountain in the middle and growing plants about it. Cages containing singing birds were hung from the arcade arches and there were fishes in the pool. About the hall were placed a few Gothic and Renaissance sculptures. The purpose of this room is to give a feeling of change and relaxation to visitors. The experiment has even been tried of providing phonographic music, and it is observed that both children and adults go to this room after concentrated study of the museum collections.

Miss Hazel M. Leach of the Worcester Art Museum stated that in spite of a very strict rule that no one is to touch a single object in the museum the children with whom she was working had an irresistible tendency to handle the sculpture. In consequence, a few small pieces of sculpture, chiefly bronzes, were placed in the children's room in order that they might be handled freely.

Mr. Henry L. Ward, Milwaukee Public Museum, stated that it is generally agreed that the ordinary exhibit of natural history specimens is practically valueless to naturalists, because the specimens cannot be closely examined or handled. He cited the case of a certain pistol, the entire interest of which is centered in the peculiarity of its action. The really important point about it therefore is lost when it is installed behind glass. He suggested that if a sufficient number of demonstrators could be provided it might be possible to allow visitors to handle a great many objects that cannot now be exhibited without cases. If only such objects were to be exhibited, however, the museum would necessarily be much restricted in its choice of subjects. Mr. Ward agreed with previous speakers as to the value of the sense of touch.

The Association then adjourned for luncheon tendered by the Metropolitan Museum of Art.

SESSION OF TUESDAY, MAY 22

Afternoon

Mr. Edward Robinson, director of the Metropolitan Museum of Art, presided over the afternoon session. The program was a continuation of that of the morning, but was devoted especially to a consideration of the relations between the producer and the museum. The first paper was presented by Mr. M. D. C. Crawford, research associate in textiles, American Museum of Natural History, as follows:

RELATION BETWEEN THE PRODUCER AND THE MUSEUM

During the last year or more, the collections in the American Museum of Natural History have been extensively used for artistic suggestion by the textile industries of the United States. It is

gratifying to see the wonderful decorative arts of the New World at last receive recognition in the industrial life of this country. It is a satisfaction to be able to record that these ideas have been well received by the public and extremely profitable to the individuals who developed them.

As yet the application of these designs has been entirely confined to domestic commerce. But there are not wanting indications that the great arts of Peru, Mexico, and the Southwest, and even of our Plains Indians, will be adopted by foreign creators of decorative fabrics. And it cannot escape the notice of thoughtful people that a distinctive national art will be of great importance in developing an export market for our fabrics when the war is over. It was impossible to create a demand for our finest webs as long as they were but copies of European designs.

The commercial, however, is not the only, nor perhaps the most important, side. For if we except the bonds of a common language and political ideals, there is nothing that so enriches the intimate life of a nation as does a distinctive art. The decorative arts of the Old World have been built largely on their great peasant arts. The peasant class in Europe, because of its conservatism of centuries, has been the repository of all the arts that have been born, developed, and passed away. America, fortunately, has no peasant class, and even in exchange for a beautiful decorative art, no one could wish to see one developed. But we have a wonderful treasure house of artistic suggestion in the great aboriginal arts. It is a great mistake to think of the arts of Mexico, Yucatan, or Peru as primitive; they represent centuries of development and elimination, and, so far as textile arts are concerned, are the peer of any other country's archeological documents. They are peculiarly our own, and have that distinction and originality so requisite to the creation of a new school of decoration.

I am, however, far from wishing to convey the idea that American decorative arts should be solely influenced by the truly American documents. The diverse and rich strains of blood in America make us the heir of all the arts of all lands and all times. The changing modes, expressing (as they should) both a natural desire for novelty and those psychological conditions of mind that are grouped under the scarcely descriptive name of "fashion," all demand many sources of inspiration. And, rich as are the stores of documents under the care of the members of this Association, they must be constantly re-

newed and enlarged to meet the demands of the coming generations of artists. More and more insistently will ambitious young people come to our collections for ideas; a generation of faith and patient effort is bearing fruit—America is to have a real native art, expressive of our lives, suggestive of our ideals.

It may not be out of place to outline the work conducted during the last two years in the American Museum of Natural History. The results have been, on the whole, very satisfactory, whether they be regarded from the commercial or the esthetic side. They represent the combined efforts of members of the museum staff and representatives of the industry. And I may say that the campaign has always been a personal affair. It has been necessary to familiarize the industry with the collections, to teach artists how to use the museum, and also to give them some idea of the technical limitations of textile machinery. Lastly, it has been necessary to bring the industry and the artists into satisfactory relations.

The most vital part of the whole work has been the development of the individual artist. Without the skilful hands and sensitive minds of trained craftsmen, our great collections of documents can never deeply affect the esthetic education of the nation. Without artists properly to interpret them, our collections must always remain merely the pleasant diversion of the public, indirectly affecting their appreciation of beauty, and the happy hunting ground of the trained connoisseur and scientist. We have felt this very keenly in the museum; we have endeavored by every means to make the artists feel at home in our halls; we have stretched every facility to bring them in close sympathy with the material. And the result has been that they have responded with a loyalty and an enthusiasm that has well repaid our efforts. They look upon the museum not only as a great institution inspiring deep respect, but as a home containing untold stores of beautiful and inspiring objects.

Local conditions so alter cases that a general rule is perhaps difficult to formulate in detail. But it is humanly impossible to resist the temptation, and here is the one that I feel will best apply: If you desire artists to use your collections, remove every restriction that is not absolutely necessary to the protection of documents. Young artists are peculiarly sensitive, and can never do their best work in an atmosphere of restraint. And every rule that does not have an obvious reason connected with the safe and orderly administration of a museum will hinder the work.

There are many other industries that have a decorative side besides textiles. Indeed, properly considered, few industries are excluded from this classification. If the problems of these industries are studied with relation to available documents, and if the artists and the industries are brought into closer relationship, the artistic life of America can be greatly enriched through the efforts of the museums. Common articles of commerce, the things that come constantly into our lives, are the greatest medium for an art education. A well decorated cardboard box, a yard of silk, or a magazine cover will appreciably improve the taste of countless thousands of people. And this is not only of great educational value, but, as has been demonstrated in an experiment in the American Museum of Natural History, is a great commercial success.

The Chair introduced Mr. Albert Blum, proprietor of the United Piece Dye Works, who presented the following paper:

THE MANUFACTURER AND THE MUSEUM

I wish to echo the sentiments Mr. Crawford has so ably expressed and to emphasize the great need for developing the artistic side in relation to the textile industries. I think that you ladies and gentlemen of the museums and the libraries can be of great service to us in giving free access to your documents to the artisan, the manufacturer, the distributor, and the consumer. I think that you can elevate and cultivate the taste of the consuming public by bringing the public face to face with the documents in your museums and libraries. I think you can enable the artist to make comparisons and studies of the various periods and the manufacturer to cull ideas as to a possibility in a given fabric by viewing the various fabrics that you have on exhibition. I would like to suggest that the museums throughout the country should have either permanent or frequent retrospective exhibitions of textiles so as to keep up the interest of the public, of the designer, and of the manufacturer in textiles.

An important step in this direction has been taken within the past year. We started the first national competition in textile designing last December, and met with considerable success. Something like two thousand designs were submitted to us and I believe that we really aroused for the first time the interest of artists, manufacturers, and consumers. We held another competition and exhibition just

a few weeks ago, and I believe that considerable progress has been made in the line of material submitted.

The American Museum of Natural History and the Metropolitan Museum of Art have been very good to us in giving exhibitions and lectures, and I would like to emphasize once more the desirability of permanent or oft-repeated exhibitions of textiles in museums and libraries.

In response to a question from the Chair Mr. Blum stated that there is great need of a textile museum in the United States and that he had already suggested to the Metropolitan Museum that two rooms in the basement be given to a weekly exhibition of textiles, starting with the fourteenth century and coming down to the present time. He believed that such an exhibit or series of exhibits would appeal not only to the silk trade but to the cotton and woolen trades as well. Mr. Newton H. Carpenter of the Art Institute of Chicago suggested that an exhibit be circulated from one museum to another. Mr. M. D. C. Crawford, American Museum of Natural History, stated that while the manufacture of the fabric is an important industry in Paterson, the artistic suggestions with reference to decorative design come almost exclusively from New York, just as in France these suggestions come from Paris rather than from Lyons, which is the center of the manufacturing activity. Mr. Crawford emphasized the necessity of giving to visiting artists the easiest access to the actual specimens consistent with their preservation by the museum. He thought that any permanent exhibit in a place like Paterson that required specimens not duplicated in New York would be inadvisable. Where one artist would see it in Paterson a hundred would see it in New York; where one man with creative vision would see it in Paterson it would be seen by a dozen in New York. Mr. Blum suggested the importance of reaching the consuming public as well as the designer.

The Chair then introduced Mr. Henry Percy Macomber of the Society of Arts and Crafts in Boston, who presented the following paper:

THE RELATION OF MUSEUMS TO THE CRAFTSMAN

The ideal of the founders of the Metropolitan Museum of Art, as expressed in its charter, was "to encourage and develop the application of arts to manufactures and practical life." So it is evident that this leading American museum was intended to have very close relations with the craftsman. The products of an industry, of a manufacturer, and of a craftsman may differ widely in quantity and quality, but they need not differ in kind. The relations of the three to a museum are really identical, except perhaps in degree. The true craftsman, uniting in himself skill in both technique and design, may very well take more interest and pleasure in making his product beautiful than the industrial baron or the manufacturer, and so be more likely to turn to the museum for inspiration; but if manufacturers are convinced that their product will sell better if more artistic, they will take everything that a museum can offer, even though for business reasons only.

Most craftsmen feel more or less definitely that a museum holds open to them opportunities for inspiration and artistic advancement, and yet most of them would admit that they do not take all the advantage they should of these opportunities. They generally say that they do not have the time. However this may be, it is part of the museum's business, I believe, to try to attract the craftsman in every way possible and to make its collections accessible and instructive by proper grouping and special display.

I know that some of the larger American museums have been doing good work along these very lines for some years. The Boston Museum of Fine Arts, with which I am best acquainted, has given our local craftsmen the advantage of seeing no less than fourteen special exhibitions of various branches of the handicrafts in the last six years. In 1911 there was a notable exhibition of American colonial silver and also a general exhibition of arts and crafts work by members of the Boston Society. In 1912 there were exhibitions of colonial furniture and of the native arts of our foreign population. In 1913 there were exhibitions of European pottery and porcelain of the eighteenth and nineteenth centuries, of oriental rugs, of the industrial arts of the Philippines, and another showing by the local Society of Arts and Crafts. In 1915 there were exhibited interesting collections of Persian and Indian miniatures, of Persian, Turkish and European pottery, of glass and jewelry, and again of colonial furniture. Last year there

were special exhibits of oriental armor and of old pewter. With practically all of these exhibitions one or more lectures or descriptive talks were given.

Other museums have frequently held similar exhibitions. The Metropolitan Museum last March introduced what seems to me to be a very interesting and valuable kind of exhibition. In one of its class-rooms, where designers may conveniently copy any of the exhibits from the galleries, were assembled various objects exemplifying the ways in which the museum collections have been utilized by craftsmen and designers during the past year. They comprised furniture, textiles, jewelry, pottery, etc., and strikingly illustrated the very desirable possibilities that may result from more intimate relationship between the museum and the craftsman.

At the Brooklyn Institute of Arts and Sciences last March there was a remarkable exhibition of early American art, including valuable collections of colonial furniture and house furnishings. In an article on this exhibition in a recent number of *Good Furniture* (which, by the way, is becoming a splendid educational force) the editor says:

If the furniture dealers and manufacturers in America really understood the conservative and stabilizing influence which good examples of fine craftsmanship always have on the buyers of the things they make and sell, they would provide permanent exhibitions, after the fashion of this exhibition at the Brooklyn Museum, at every center of trade. Because we as a nation are lacking in the basic sense of craftsmanship and home-making, our arts and crafts have languished, the habitual surroundings of a vast majority of our people have remained mean and vulgar, and the harrowing tragedy of modern art has been enacted and perpetuated. The step which the Brooklyn Museum is taking of showing examples of fine craftsmanship in their application to the home-furnishing arts, is a most important one for the public as well as for the art industries that produce present day home-furnishing units.

Exhibitions such as I have mentioned I believe to be steps quite in the right direction. There should be more of them, and the manufacturer and the craftsman should cooperate more with the museum in furthering such exhibitions.

Our Boston museum, as do many others, provides convenient study rooms for the use of designers, craftsmen, and students. Its staff has always been ready to assist in matters of design such industrial art organizations as Denison House, the Society of Decorative Art, and the Massachusetts Commission for the Blind, as well as the designers for quite a number of large manufacturers.

Most museums have libraries which craftsmen should make better use of to increase their knowledge of design. It has been my experience that courses of lectures do not generally appeal to craftsmen, even though on their own craft, but craftsmen are much more interested in talks given on some special exhibition where they can examine the objects to which the speaker refers.

I believe that museums should pay more attention to showing better collections of the industrial arts and I am most heartily in sympathy with the idea which is being carried into effect in Detroit, thanks to the convictions and generosity of one of the trustees, of showing in our museums some of the best work of our master-craftsmen of today, without waiting until they have been dead for one hundred years. This is an encouragement for our craftsmen and an example to the public that our museums should be more willing to undertake.

I was very glad to note that at the Convention of the American Federation of Arts in Washington last week a resolution was passed that the Federation encourage the purchase by our museums of works of art by American craftsmen.

Mr. L. Earle Rowe, director of the Rhode Island School of Design, Providence, R. I., then presented the following paper:

THE PRODUCER, THE ART STUDENT, AND THE MUSEUM

Diogenes Laertius, in speaking of Aristippus, remarked that on one occasion when the Greek philosopher was asked what were the most necessary things for well-born boys to learn, he said, "Those things which they will put in practice when they become men." It is to the great credit of American art schools, that they have sought for years to prepare their students by following this broad principle. They have realized that to do this successfully they must jealously guard the highest standards of quality and achievement, must keep the courses offered up to date and in full sympathy with the needs of the community, and must be both practical and theoretical. Above all, they have learned to use the libraries and museums which may be available, and to invite the cooperation of producers and merchants. It is equally to the credit of the American museums that they are seeking to increase their usefulness in every way.

Each of the parties or institutions concerned has its special problems, although there are certain features in common, and all have certain desirable aims to be attained through cooperation. It is not wise to assume that a museum's chief function is to plan its work primarily for the producer and the art student, but no one will deny that possibilities for usefulness in that direction are great.

There are four features to be discussed at this time: the market for the artistic wares of the student; the type of students of to-day; the relationship between school and museum; and the museum as a source of inspiration for all.

If I understand aright the needs of the producer, they are that the work submitted by designers and artists shall be original in conception without being bizarre, sure in drawing, practical in all essentials, and that it shall be what the public will buy and not too expensive to manufacture. It should also have such novelty as will attract attention. The producer dislikes to be obliged to turn over the work of a designer to someone in his employ to correct drawing or lettering and to eliminate impossible ornament. This is neither efficiency nor conservation of energy, for the first designer should know the immediate needs of the producer. On the other hand, manufacturers, especially in America, are prone to be satisfied with that which, from the highest standards of artistic design, is mediocre at best, while many look at it only from the mercenary point of view. This latter is inevitable in the severe competition of the commercial world.

The relations between the manufacturer as a producer and the museum have been most ably discussed, and we have all noted the lines of future endeavor which have been suggested, and which, I am sure, we will follow out so far as concerns our own particular problem. It might not be amiss to add that closer association between the producer and museum will raise the standards of the manufacturer as to what is possible. He will be expecting better work from his designers and be able more easily to recognize latent and useful talent. It is a laudable ambition of many manufacturers to have their names accepted everywhere as a guarantee of workmanship and quality, and the more highly developed their taste the more this will be possible.

Heretofore we have considered the manufacturer as a producer. We should also include the artist and the student of art and design as producers. To be successful, both should have ideas, imagination, and knowledge of technique, and be close students of human nature.

Generally speaking, younger artists are prone to believe that they should force the growth of individuality, developing style and disregarding established canons. This phase of experience is rarely of long duration, for the necessities of existence usually mold the artist into a close student of his market and of whatever is helpful in the work of the past. There are no better places in America to study the latter than the art museums, which are constantly expanding in acquisitions of merit and which hold to such a high standard. The relations between the artist and the museum therefore are of distinct interest.

In some cities the art museums offer every encouragement to local artists, by having periodical exhibitions of their work, by making purchases for the permanent collections, by hanging individual examples in the general exhibition, by offering competitions and prizes, and by seeking to bring together the artist and the patron when a work of art of unusual distinction has been produced. It is not in the spirit of the present discussion to treat of these activities from the side of general museum policy or ethics, but it might be of value to comment on possible phases of development along the above lines. It will be generally accepted by all that a museum of art should be decidedly interested in local art, but conditions vary as to the kind of interest which may be shown.

Where there is a local organization, such as an art club, which has available galleries, it has been found advantageous to have an understanding whereby exhibitions of local art are shown by the art club, and those of work outside of the state as well as the older expression, by the larger museum. Such an arrangement makes possible an increased number of opportunities for the public to study works of art, and a higher standard of quality for the museum. This arrangement has proved especially satisfactory in Providence. There need, however, be no hard and fast rule, for there are many museums which prefer to exhibit all kinds of work.

Another point of contact between the artist and the museum occurs when there is a request from the artist that his painting be hung with the permanent exhibition, in order that he may be the better judge of its good points or failings through comparison. Such a request is not always easy to refuse, and there are cases where the work is of the superior quality seen in the rest of the exhibition, but generally speaking, it is not wise to grant the request.

Prizes and competitions are great incentives to many artists. When the former are offered at the time of a general exhibition of

American art, and work has been admitted which has passed a fair jury, then much good may come from it. Through their use much more important paintings may often be secured, and certainly the artist is far more interested. But the museum should always hold for the artist a standard of the highest quality, stimulating him to the greatest effort, in the hope that, at some future date, a superior example of his genius may be added to the permanent collection.

If the standard of quality is emphasized and the museum is known to be perfectly fair in its advice, much can be done by it to bring the artist and the patron together. Therein lies an opportunity of the future which merits all consideration.

For the artist, the museum must ever remain a shrine to which he should make constant pilgrimage. Here are the messages of the leaders who have preceded him, here the evidence of technical difficulties overcome, here the confession of faults of omission and commission, here the evidence of good and bad framing, here the insistence on purity of conception and execution. We hear much about artistic temperament and its changing moods. In the museum will be found that steadiness of purpose and that evidence of hard labor with hand, eye, and brain, which offer a desirable check to those inclined to be ruled solely by impulse. The message of the museum is that success is based on ability to conceive and express, and on the development of the individual through long training.

The student of art and design should receive even greater consideration. He or she is a producer in embryo and is passing through the formative stage when every influence for good must be exerted. The entire training is, or should be, one of personal development and expression. To further this, through every one of its many functions, the museum should encourage expression, develop taste, present opportunities for comparison and judgment, and invite close study of all examples of fine or applied arts.

There has been a decided change in some types of students who come to our art schools and museums. They are eager to be earning a living wage, rarely look ahead to the wider field of usefulness for which extended study would prepare them, are satisfied to do just enough "to get by," are impatient of restraint and requirement to study, and, above all, seldom have the definiteness of purpose which characterized students of past generations. Part of this is based on physical conditions of home environment and the arrangement of school work so that the students are sixteen or over before art training is begun. The difficulties are increased by the fact that art teachers

of the most desirable type, with leadership, discipline, mastery of technical details, breadth of vision, and knowledge of the problems confronting the producer, are not easy to find.

To the student of art and design the museum offers unparalleled facilities for that serious study which will mold the ideas to be expressed. Here, so far as possible, the problems of design in their practical expression are illustrated; here textiles, metal work, paintings, sculpture, jewelry, laces, furniture, book-binding, lettering, illustration, material for interior decoration, silver and enamel work, and the applied arts of the East offer a rich field for study. To him the museum should be a laboratory to which he eagerly turns for a development of his analytical powers. Every object there shown should be a source of ideas. He should approach the same object from a dozen different points of view and discover that he can respond in as many different ways. The changing exhibitions should show him the prevailing tendencies of the times, and his developing sense of proportion and value should prevent his being led astray in the direction of expression without balance. He should learn to haunt the museum, not only during the hours when his teachers insist upon it, but at all times, for that rest, help, and inspiration which comes to one in a receptive mood. The student of art must learn that he can no more exhaust the possibilities for usefulness in a museum by a few visits than the student of literature can master a play of Shakespeare with one reading, or the student of music reach a full understanding upon hearing for the first time a symphony rendered by a great musician.

Our subject is so comprehensive that it includes the question whether or not the museum and the school should be in the same building, or in the same group of buildings, and under the control of the organization which offers museum facilities. The alternative is to separate them entirely from any direct relationship, or, as was the case here at the Metropolitan, give it up altogether. In the latter plan the argument is that a concentration of all energies on museum development produces greater results in the end. In their special report, dated January 30, 1895, the authorities of the Metropolitan Museum of Art have made clear their point of view. There is therefore no need for us to repeat the arguments which are so well expressed there. The separation between school and museum is also strongly advocated by D. G. E. Pazaurek.¹ But there is another side

¹ Wiener Bauindustrie Zeitung, Jahrgang 20, no. 40, 1903.

to the question, for many museums have felt it their duty to develop a school in the more intimate relationship. Among these might be mentioned Worcester, Buffalo, Detroit, Chicago, Minneapolis, Indianapolis, Cincinnati, Philadelphia, Boston, and Providence. This is not a complete list, but it is truly impressive, and the years of successful development in these centers are strong arguments in favor of such a plan.

To illustrate the value of the close union between school and museum which is possible I may cite a few details about the Rhode Island School of Design. Beside the large and important museum, the institution includes a school which this year numbers twelve hundred and fifty-one pupils. There are seventy-eight teachers and eight departments. The plant includes eight buildings on the same general area. There are mechanical, jewelry, and textile departments, as well as those which deal with the so-called fine arts. Library, museum, and school are interrelated, and the student has the benefit of all three. The constant study of objects in the museum galleries by textile and jewelry students as well as those interested in the fine arts, is the best proof of the appreciation and value of the opportunities presented. This might be discussed in detail, if there were available time, but I am sure the general experience of the museums in the list mentioned is heartily in favor of the continuance and development of the broad policy of school, library, and museum working together. To insure this development the school and museum must be very close neighbors.

Vasari, in speaking of Masaccio, tells us that "the most celebrated painters and sculptors became excellent and famous by studying the frescoes of the Brancacci Chapel; and not only Florentines, but foreigners from other lands and cities came there to learn the principles of their art." It is this same spirit which should induce the producer, the artist, and the student of art and design to avail themselves of the advantages which only the art museum can offer, and by their unity of purpose, cooperation, and due emphasis on superior quality, create an art market which admits only the best from the point of view of design. Difficult of solution though the problem may be, it will doubtless be readily granted that much can be accomplished through more intimate relations between manufacturers, art schools, and museums.

The next group of papers dealt with the trade press and its relation to the museum. It had been expected that Mr. Ivy L. Lee would discuss the relationship of the trade press to the museum of art, but he was unable to be present.

The Chair introduced Miss Adelaide Hasse, statistician and assistant librarian in charge of public documents in the New York Public Library, who presented the following paper:

EXTENT OF THE TRADE PAPER PRESS IN THE UNITED STATES

In 1916 there were published in the continental United States 3148 trade papers representing 134 trades. Just 30 trades publish more than 20 papers each.

The distribution of these papers among the trades is as follows: agricultural, 527; labor, 253; negro, 237; medical, 184; commercial and industrial, 83; prohibition and temperance, 83; poultry, 81; financial and banking, 80; grocery and general merchandise, 78; insurance, 72; architecture and building, 69; railroads, 67; automobiles, gas engines, etc., 64; drug, oil and paint, etc., 51; music, 49; mechanical and engineering, 46; fashion, 43; real estate, 42; electrical, 38; hotel, restaurant, etc., 35; liquor and anti-prohibition, 34; milk and milk products, 29; clothing and furniture goods, 26; books, book trade, and writers, 25; furniture, upholstery, and carpets, 25; lumber and woodworking, 23; textile fabrics, 22; petroleum and natural gas, 22; shoe and leather, 22; dental, 20.

Of the total number of trade papers published, 605, or 20 per cent, are published in New York City. Chicago follows with 305, and the other large publishing centers of trade papers are, respectively, Boston with 107, Philadelphia with 99, San Francisco with 98, St. Louis with 62, Kansas City with 47, Detroit with 44, Washington with 32, Cincinnati with 30, and New Orleans with 22.

There are 39 publications in the United States covering the furniture, upholstery, carpet, wallpaper, and interior decoration trades. This does not include those having to do with house furnishing goods. Of 16 of these 39 papers no circulation was found. The circulation for the remaining 23 is 114,693, the highest circulation of any one paper being 45,000. Almost one half of the whole number of publications of this class is printed in New York City. Grand Rapids with 3 papers is the city next in rank.

It is not without interest to see how the trades are represented in the cities named. Taking first the heaviest publisher, New York City, we find that her heaviest trade paper representation is for the fashion trade, with 36 papers out of a total of 43. Then follow, in the order named, medical papers with 33 out of a total of 184, financial and banking with 25 out of 80, commercial and industrial with 24 out of 83, insurance with 22 out of 72, mechanical and engineering with 20 out of 46, railroad with 20 out of 67.

In Chicago more agricultural papers are published than in any other city, viz., 37 against New York's 10. Then follow medical, 19, labor 15, and railroad 14.

Boston publishes more shoe and leather trade journals than any other city, viz., 15 out of a total of 22. Next, Boston is most heavily represented by agricultural trade papers, viz., 7, financial and banking papers, 7, and textile papers, 5. In the books, book trade, and writers' group, Boston publishes only 3 papers against Chicago's 5 and New York's 8 out of a total of 25.

Philadelphia's heaviest representation is of the medical papers, viz., 13; then follow commercial and banking, 8; agricultural, 7; the drug, oil and paint trade, and insurance with 4 each.

San Francisco is most heavily represented in the agricultural papers with 9, then in the commercial and industrial with 6, and the insurance and poultry trades with 5 each.

Of 44 trade papers emanating from Detroit, agriculture and labor lead with 5 each, while medicine follows with 4.

Washington and Cincinnati both publish more labor papers than any other city. In St. Louis a large majority of the trade papers is devoted to medicine, the next in rank being agriculture. Kansas City, with 15 agricultural papers, is second only to Chicago and outranks New York in this class of publication.

Chicago outranks New York in the number of trade papers relating to the agency and mail-order business, as well as to agricultural implements, barrels and boxes, brick and tile, building management, cement and concrete, cleaning and dyeing, coal and coke, cooperative trading, forestry and irrigation, labor, landscape gardening, lumber and wood-working, milling, flour and grain trade, shoe and leather trade, stone monument trade, window dressing, and wool growing.

The maximum circulation of individual papers in the several groups is as follows: fashion, 3,250,000; home management, 1,000,000; agricultural, 926,000; woman's handiwork, 880,000; care of children,

500,000; mechanical engineering, 300,000; moving pictures, 244,000; musical, 226,000; business and office methods and milk products, each, 140,000; labor, 127,000; hygiene and sanitation, 111,000; poultry, 100,000; fur trade, 86,000; insurance, 78,000; safety devices, 65,000; medical and electrical, 60,000 each; threshing and printing, 53,000 each; and commercial travelers, 51,000.

In point of total circulation the agricultural papers lead, their circulation being 17,235,444. A close second is the total circulation of the fashion papers with 15,472,047. From these huge figures there is a sudden drop to 1,806,393 for labor papers, 1,105,688 for railroad papers, 1,094,187 for mechanical and engineering papers, 1,062,495 for poultry papers, then again a sudden drop to 592,017 for medical papers, 519,525 for automobile and gas engine papers, 489,234 for the musical and music trade, 395,425 for commercial and industrial papers, 383,154 for architecture and building, 363,270 for the electrical trade, 354,535 for the milk and milk products trade.

The combined circulation of the trade papers of the 30 trades issuing more than 20 papers apiece is 43,376,791. This you will remember represents only about two-thirds of the total number of trade papers published.

Mr. J. P. Rome, editor of *The Decorative Furnisher* and secretary of the Art in Trades Club, presented the following paper:

THE TRADE PRESS—ITS FUNCTIONS

Now, to begin with, I am going to be rather severe. I am going to say that functions are primarily of two kinds, performed and unperformed; and that, regrettably, the function of the trade press in reference to the museum is, more frequently than otherwise, of the unperformed kind. This function does exist just as certainly as the museum and the trade press themselves exist, but it does not always show itself as clearly as we would like.

Let us digress a moment.

A museum is an institution that links the past with the present.

A trade is a profession, or craft, that works in a modern way on the strength of what has been done in the past.

And a trade paper is a special paper that confines itself solely to the acts and action of some particular trade with a past.

Now then, very obviously, the function of the trade press is to

bring the members of its particular trade to a knowledge of the contents of the museum, so that the goods they are making may be all the better for what has gone before, or in other words, that the trade may be the heir of the ages in its own individual field.

And there you are. Yes, figuratively speaking, there you are; but in reality you have split your subject wide apart. For on the one hand you have the museum performing admirably its principal function, that of enlightening the public, and on the other hand you have the trade magazine flying grandiloquently through the course of its existence teaching the young idea how to shoot, but caring not a whit for the museum and the past behind it.

And so there you are again—still farther off than ever.

Certainly, however, the particular function of the trade press which we are considering is important and worthy. It is all very well to live and work in the present, but our esthetic tastes just as surely should draw on the stores of the past. We are born into the world with the riches of the present at our feet, but the glories of the past we must acquire. And if the trades that produce even our humblest commodities are deficient in their knowledge of the past, what assistance do we get from them? Or if the trade papers that favor those trades are derelict in this one of their functions what help do the trades get from them?

It is a chain of assistance all along the line, and the breaking of one link is alike ruinous to everyone concerned.

Furthermore all knowledge is cumulative. If a man wishes to perfect a certain machine, say, for example, an electric engine, he does not begin a study or an examination of the many tedious steps that led up to the invention of the first machine of that type; rather does he start where the last perfecter left off and from there on continue his own work.

And quite the same is true in other fields of endeavor. The designer of fabrics must know, and does know, what was done in the past, so that he can equal, or perhaps better, these former things, in his own productions. The furniture manufacturer likewise blazes no new trail; he rightfully takes advantage of the labors of those who have preceded him and profits by their triumphs.

Here again the museum is the repository of the past; and, while it is not imperative that the trade paper be the sole proclaimer of this fact, it is generally admitted that those who consult the museum in a trade capacity are greatly influenced in so doing by the trade press.

Naturally the museum exerts its every effort to educate the public and to open its riches to the world, but the appeal of the museum through the public is not nearly as great as the appeal of the museum through the trade press. For the public can but admire and praise, whereas the trade, reached through the trade press, not only praises, but produces the praised goods for everyday and continual consumption.

If the trade paper, therefore, which exists primarily as a clearing house for trade knowledge and news, can but suggest the wealth of material to be found in the museum of a character particularly suitable for trade use, then it has performed well the function under consideration. If it can influence its trade to use but even a small part of the museum material, then it has performed a function that is at once valuable to the trade and to humanity.

And there is no doubt whatever that some trade papers are performing this particular function in a most admirable manner. Did you ever stop to think where the weavers, the silversmiths, the leathersmiths, the potters, the glass manufacturers, the furniture men, the metal workers, and all those other craftsmen, in the carrying out of whose crafts applied design plays such an important part, came upon their estimable shapes and patterns? Is it the result of knowledge learned at school? Is it the result of natural training? Is it the result of careful study? Look carefully at the products of any of these trades. They are chaste in character, beautiful in conception, adequate in purpose, and as you examine them in detail you become more and more puzzled at the source of the design knowledge displayed. Did each craftsman figure out each pattern and shape for himself? He did not, but some industrious trade paper, burning figurative midnight oil, discovered them at some museum, and performed its function well.

Not long ago a well meaning "outsider," not connected with any special trade, and who didn't know his museum well, approached the editor of a trade paper for the purpose of calling his attention to "Batik, that new form of fabric printing or dyeing now so much in fashion." "Something quite original," he said, "never done before, and a great success; therefore something that should be advocated and explained by the trade papers." It required only a few minutes to show the "outsider" that Batik had been known to the trade through the museum and through the trade papers a score of years or so before his remark. Once more the function well performed!

When Chippendale furniture was coming into a revived vogue less than a decade ago, a certain manufacturer went into a certain museum

and saw therein a certain collection of Georgian furniture. "It is wonderful how quickly they have brought this collection together since the starting of the vogue," he remarked. "Yes," replied a friend who was with him and who knew, "it is wonderful, since they have had only a century and a half to do it in."

So there *is* a definite museum function which the trade press can, and does, perform to a certain degree. In view of the remarkable renaissance of good design and decoration that is sweeping over the country at the present time, this degree of function should increase to—let us say—the *n*th power. And let us hope that some day it may.

Mr. William Laurel Harris, director of the School Art League, New York City, presented the following paper:

AFFILIATIONS OF THE TRADE PRESS

It is a very great pleasure for me to be here this afternoon and to speak directly after my friend Mr. Rome because we have so many things in common. As far as I can make them my remarks will be a continuation of his paper.

The natural affiliations of the trade paper are, of course, with the manufacturers, the producers, the designers, and the museums—and very largely with the museums, as Mr. Rome pointed out, because we all gather so much of our literary material and artistic data from the museums. The technical side of the trade paper is evidently its vital side and the one which differs from all other forms of publication. That this is a very vital side is evidenced by the statistics which Miss Hasse gave us of the enormous number of these trade papers and the great bulk of information which they give out. Along with this technical side of the trade papers there is a human side, which is very important indeed if technical knowledge is to take root among our people. At the present moment, in the business crisis which has been brought about by the difficulties of communicating with Europe, it is peculiarly important that we all cooperate and work together for the good of the United States. The greatest difficulty in our working together is that each person is busy with his own affairs and fails to appreciate his neighbor's point of view. A museum is busy with its own affairs and the producer with his. The trade paper is, in a measure, a go-between. The museums can do

an enormous amount of educational work by gathering together the human side of the artistic documents which are in their custody.

It is very important that publicity matter prepared for the trade press be formed on a different basis from that for the public press. The general purpose of matter prepared for the public press is, I suppose, to excite in the people a desire to come to the museum, and you write in a popular way of the glories of the windows or paintings or furniture to be seen.

Through the trade press you have to deal on the other hand with critical minds, with people trained to a particular point of view. It is very important that the publicity material given out to the trade press should carry conviction to the man who knows.

I have in mind a very notable example of the point I wish to make: Among the recent accessions to this museum are some very beautiful windows. The descriptions of them in the general press have been in every way satisfactory as far as the public is concerned, but when a man who makes stained glass windows comes to see them he is very much taken back to find in them almost every pernicious practice used in making a cheap window, and he is likely to go away very much disgruntled and with the opinion that the influence of museums is bad for modern stained glass in America. Now if the human side of those windows could have been put before the craftsman through the trade press, he would have understood them at once. The fact is that those particular windows were made after the wars of the sixteenth century were well under way and when all the industries of Europe had been put in a very precarious condition. The financial conditions of every country were shaky and there was not anywhere near the amount of money to be spent on stained glass windows that there had been thirty years before. Yet there were at that time in Europe a great number of men extraordinarily skillful as designers, men with great reputations as artists, and these men were given the task of making windows which should be cheaper and at the same time beautiful. The particular windows we are discussing are of extraordinary interest as an eminently successful solution of the problem.

Both the technical and the human sides of all the material now in our museums need to be dwelt upon and accentuated, if we are to carry conviction to the artist and the craftsman. As a painter, designer, and craftsman I feel this keenly and I hear from other artists that they wonder why certain things are in our museums. The

only way to make them understand is to develop the human as well as the technical significance of these objects and to publish such information through the trade press. In this way, through the natural affiliations of the trade press with the museums, the producers, and the manufacturers, I think we can build a bridge over which we may all travel to prosperity and victory over all our problems and difficulties for the greater good of our native land.

In discussing the preceding papers on the trade press and its relation to the museum Mr. Henry W. Kent, Metropolitan Museum of Art, spoke as follows:

Mr. Kent.—"Since the whole subject of the afternoon is 'The Producer and the Museum,' I cannot leave this particular topic in the program without saying one word. When we arranged this program we had it in mind to call the attention of art museum people to this most important subject, the producer, and I must say, without being invidious, I hope, to any of those who have spoken so interestingly and so ably, that what Miss Hasse has told us is, or ought to be, an epoch making statement in the art museum world. In Washington a few days ago Mr. Arthur Farwell said that only two per cent of the people of the United States go voluntarily to hear music. I doubt if anyone ever figured out what per cent of the people of the United States are interested in art as shown through their visits to art museums, but I doubt if it is very much more than two per cent. Miss Hasse's stupendous figures as to the interests in this country which ought to be permeated with art should, it seems to me, set us thinking. Miss Hasse did not tell us how many art magazines there are in this country, but I think she could count them on the fingers of one hand. She would not talk in hundreds or in percentages. If we set this very small number of art magazines, which may be considered trade magazines, over against the furniture magazines, wall paper magazines, ladies' wear magazines, and textiles magazines, it seems to me we have a situation which requires the most serious consideration of art museum people."

Miss Florence N. Levy, editor of the *American Art Annual*, presented the following paper:

THE ART MARKET

To buy wisely, to use appropriations to the best advantage, to know how to embrace an opportunity—these are valuable qualifications for every curator and director.

In opening the discussion of this important topic, the art market, I will try to give a brief summary of the development of the public art market, generally known as the auction; then, by means of charts, you will be able to follow some fluctuations of prices during a number of years; and, finally, I will lay before you what has been done in Europe to keep track of these prices and what the American Association of Museums might do to record prices of art sales in the auction rooms in this country.

Henri Rochefort, the French critic and collector, once remarked that the "price of pictures all depends upon the nail on which they hang." A writer in the New York *Evening Post* applied this to local conditions, saying: "If the nail is driven through the plush of a Fifth Avenue dealer the dependent picture is appraised in five or six figures; if the nail is driven through the plaster of some humble establishment on a side street, the same picture is dear at three or four figures; if the nail belongs to a little dealer or an obscure auctioneer, the picture is worth whatever you will offer for it."

Let us be frank. For a great work of art, a masterpiece, there is no "market price."

Many things play a part in the amount for which a work of art changes hands—the beauty and rarity of the piece itself, the momentary desire of the purchaser, the place that this particular piece fills in his collection, the seller's need for ready cash, all have a bearing upon the money value. Seldom is the price known when a sale is made through a dealer, but when bought at auction the figure is public property. The competition under these circumstances is still keener than at private sale. All the above influences are felt, and in addition there is the prominence of the collection which is being sold and the amount of publicity that has been given to the event, the method of display and the competition and excitement of the actual moment of sale. If a millionaire desires publicity there is no surer or quicker way to secure it than to buy a work of art at a high figure.

An auction sale of objects of art lacks certain features of the ordinary "market"; the stock market, for example, presumes, on the part of the buyer and seller, a

pretty accurate knowledge of the present value of the thing sold. This is true at an art sale of only a small class of dealers and connoisseurs, and of them in a very limited degree. In New York prices are regulated by bidders who have no notion whatever of current values and buy according to their means and their enthusiasms. It is only occasionally that the dealers enter the lists tilting against the amateur. It rather resembles a *melée* in which the regulars are always likely to retire in favor of confident collectors, casual contestants, or merely ignorant persons of wealth.

An auction at Christie's in London or at the Hotel Drouot in Paris, on the contrary, is like a battle according to military rules. The non-professional bidder has been entirely eliminated and the combatants are impassive dealers who fight according to the rule, sternly and without enthusiasm. Nobody knows whether the bidder, whose every nod means hundreds of guineas or thousands of francs, represents an American millionaire with bottomless purse, a Russian museum, or simply his own sense of speculative values.¹

The custom of selling at auction is a very ancient one, even antedating Greek and Roman times. It is supposed to have originated on the field of battle. When the spoils of war were taken by the conqueror a spear was stuck into the ground to attract notice and as the center to which the booty was brought to be viewed.

Seneca tells us the manner in which an auction was conducted in his day. It was very much like our own. The law required the sale to be public, and it was regulated and furnished with proper officers. A placard describing the property to be sold was affixed to a pillar in some public place. The courts in the Forum were set apart for the purpose and a spear was erected at the entrance as a signal. A public crier acted as mouth-piece to bidders, who, if they accepted the price, held up their fingers. He then advanced the price and kept on advancing until only one finger was visible. The lot was at last adjudged to the persevering finger. A licensed broker noted the price, collected the money, and gave the purchaser written authority to receive the goods.

Perhaps the greatest of all auctions was when the Praetorian Guard, having become the military masters of the Roman Empire, actually put up the whole Empire at auction and sold it March 28, 193 A.D. to Didius Julianus, who gave 6250 drachms to each member of the guard, so that the empire cost him some \$12,500,000.

No doubt the custom of selling in this way was continued during the "dark ages" but it is not until late in the seventeenth century that we find any records in the shape of catalogs of sales of pictures

¹ Condensed from "Psychology of the salesroom" in *The Nation*, 1903.

and other works of art. At that time the most important sales were in Amsterdam, Antwerp, and Paris, while the less attractive pictures were sent to London and generally christened with the names of the greater masters, or with those which were most in vogue at that time, such as the Bolognese school including the Carracci, Guido Reni, and Guercino.

The sources of information regarding early auction sales of objects of art are chiefly English. Horace Walpole, in 1761, published his "Anecdotes of Painting;" in 1800 the Rev. James Dallway issued his "Anecdotes of the Arts in England." "Memoirs of Christie's," the famous English auction house, published in 1897, contains much valuable information. Charles Blanc in his "Trésors de la Curiosité" rendered a similar service to France when in 1857-8 he published extracts from old French sales catalogs; about the same time Waagen wrote about German royal collections and he had published his English and French researches in 1837-9. James Christie, the founder of the world-famous English auction house, held his first public sale on "Friday Dec. 5, 1766." The following year he held his first picture sale.

"About 1850 the most famous man in London was George Robins, the auctioneer," according to N. S. Dodge in an article on "Auctions and Auctioneers" in the *Overland Monthly*. "His glowing descriptions of the estates that passed beneath his hammer were among the most extraordinary productions that ever issued from the press. . . . When Fonthill Abbey was to be sold in 1820 he seized upon the curiosity which the exclusiveness of its owner had awakened in regard to the magnificent shrine, and admission was denied to all who were not purchasers of a guinea (\$5) catalogue. Such was the fame of the collection that 8,000 of them were sold. Multitudes rushed from all parts of the kingdom to wander through the grounds and visit the galleries of the Abbey. Tents were pitched in the park to accommodate them; carts and wheel-barrows, barrels and boxes were used by the gentry for sleeping places. The sale lasted 33 days. The Abbey sold for £330,000 (\$1,650,000), a third more than its value, and the total realized was over £1,000,000."

The war has naturally interfered with the production and sale of art, but *The Year's Art*, an English annual and one of the few publications that has continued to come out on time, states in the 37th volume, covering 1916:

The reader will find many traces of enforced economies, especially in the reports of the national art museums and galleries. Only in the auction room was there a display of undiminished activity. Owing to the American demand, and to the decorative longing of new collectors—made rich by the fortunes of war—values were generally increased.

Each issue of *The Year's Art* since 1886 contains a record of works realizing 1400 guineas (\$7350) and over. It is interesting to note that there was a steady increase in the number of pictures that passed this limit, ranging from 19 in 1902 until the high-water mark was reached in 1913 when 85 were listed. The number sank to 4 in 1915, but 8 works were sold over the limit in 1916.

The history of auction sales of pictures and objects of art in the United States can be traced from the sale of works belonging to Michael Paff, one of the first picture dealers of any note in New York City. The catalog is in the Metropolitan Museum library and the title page reads as follows: "Catalogue of the extensive and valuable collection of Pictures, Engravings and Works of Art, now exhibiting, at the store of Mr. Platt, No. 6 Spruce Street, adjoining the Building of the New York Tract Society, opposite the City Hall, collected by Michael Paff, Esq., of this city, Dec'd, among which are The beautiful and deservedly celebrated Queen Esther before King Ahasuerus, a chef d'oeuvre by Van Dyke.—Last Supper by Michael Angelo Buonarotti" and a long list of other famous *names* "The whole of which will be disposed of at public auction, by order of the administratrix on ——" but the date is blank. From the city directories of the time it appears that Paff died in 1839, and that year may therefore be taken for the time of this sale. There were 1031 pictures and 84 engravings.

The earliest American priced catalog that I have been able to find is that of the "Paintings and Statuary belonging to the late Joseph Bonaparte (Comte de Survilliers)," which took place at "his late residence at Bordentown, N. J. on Wednesday, September 17, 1845." The highest price was \$2300 paid for a Rubens, "Two Lions and a Fawn" (4 ft. 7 in. h. x 7 ft. 8 in. w.). A clipping from the *Philadelphia Ledger* of the following day, recently given to the Metropolitan Museum library by Mr. Lockwood de Forest, states:

The sale of the paintings and statuary, which took place at Bordentown yesterday, comprising the collection of the late Count de Survilliers, is a convincing proof that our good citizens are willing to pay liberally for works of art. We

think the prices were very great, with one or two exceptions. Vernet's scene near Naples is worth more than it brought; and Canova's bust of Pauline ought to have brought a great deal more money.

John P. Beaumont, who entered the art dealer's field during Mr. Paff's career, had a sale of pictures imported by him, previous to his removal from 11 Dey Street, in 1850. It brought over \$10,000 and was the wonder of the day. This sale marked a period, "the last of the old and the advent of the modern school," for the money from the sale of these oil paintings was put into modern pictures.²

The auction sale of the collection of James M. Burt in the panic times of 1857 proved that works of art were a good investment. In 1863 came the John Wolfe sale which totalled \$114,000. The record high total was long held by the collection of 240 paintings belonging to Mrs. Mary J. Morgan, sold in 1886 for \$885,300 while the entire collection of 2628 items brought \$1,207,052. This has only been surpassed by the Charles T. Yerkes sale in 1910 when 198 paintings were sold for \$1,695,550.

In the eighteen years during which the *American Art Annual* has been published 50,011 pictures have been recorded, 732 of these brought \$5000 and over; and the total amount realized from the auction sales up to October, 1916, was \$22,737,495.

The rise and fall of prices of individual pictures and of objects of art we will see from the accompanying charts. The first shows the fluctuations of six paintings and the averages of work by two painters. Taking them chronologically we find that the Carracci, who lived in the early seventeenth century, were very popular during their own day and all through the eighteenth century but their pictures bring very little today. The Orleans Gallery contained a number of works by the Carracci and the prices at the sale in 1775 averaged \$2900. In 1910, works by Annibale Carracci sold in England at an average of \$625; in New York, those that came up in the auction rooms during the years from 1910 to 1916 averaged only \$275.

One of the most startling increases of prices may be noted in the "Bathsheba at her Toilet" by Rembrandt, now in the Altman collection at the Metropolitan Museum of Art. It was painted in 1643. When the Six collection was dispersed in 1734 the picture brought

² Condensed from "Picture Sales of New York, a retrospective history." 1800-1865 by C. L. Beaumont, son of John P. Beaumont; 1857-1885 by S. P. Avery; in *New York Times* of December 11, 1897.

PAINTINGS	1600	1700	1750	1800	1825	1850	1875	1880	1890	1900	1905	1910	1916	\$
LINNELL, JOHN THE WOODSMEN						\$682.4 (1870)	\$1320 (1872)	\$110,600 (Secretary) (1889)	\$180,000 to Chaulchand (1890)			\$105,600 (1912)	\$220,000 (Steingracht) (1913)	200,000
MEISSONIER (AVERAGE)						\$8,000 (1872)	\$7,500 (1877)	\$7,600 (1881)	\$56,000 (1893)			\$6,400 (Verkes) (1905-10)	\$103,300 (1912)	10,000
REGNAULT SALOME						\$1,000 (1871)			\$2,339 (1892)			\$2,890 (1898-1905)		8,000
CARRACCI, ANNIBALE (AVERAGE)							\$2,400 (1873)					\$2,700 (1905)		2,000
HOMER, WINSLOW WATCHING THE BREAKERS							\$157.6 (1846)							1,000
INNESS, GEORGE LANDSCAPE AT SUNSET							\$272 (1832)							500
MILLET, J.F. ANGELUS							\$795 (1830)						\$625 (England) (1910-15)	300
REMBRANDT BATHSHEBA AT HER TOILET							\$200 (1853)						\$275 N.L.	200
							\$240 (1791)							100
							\$480 (1780)							50
							\$145 (1740)							
							\$106 (1734)							
							\$164 (1734)							

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\$100; at the Hendrick sale in 1740 it brought \$145; in 1780 the price rose to \$480 and then dropped in 1791 to \$240; the painting then passed to London where, in 1814, it was sold for \$525; in Sir Thomas Lawrence's sale in 1830 it brought \$795; in 1832 it had risen to \$1272; in 1841 it was back at Paris and sold for \$1576. It did not come up at auction again until the Steengracht collection was disposed of in Paris in 1913, when it was knocked down for a million francs, which, with the government tax of 10 per cent, made a total of \$220,000—the highest price ever paid for a picture at auction.

Almost as striking is the history of "The Angelus" by J. F. Millet. Painted in 1859, it was sold a couple of years later, with much difficulty, for \$200. It passed from hand to hand, rising gradually, until in the Wilson collection in 1881 it brought \$32,000. At the Secretan sale in 1889 it brought \$110,600 and finally at the American Art Galleries in New York in 1890 it was bought by M. Chauchard for the sensational figure of \$180,000.

"Salome", by Henri Regnault, which was presented to the Metropolitan Museum last year by Mr. George F. Baker, was painted in 1871, shortly before the death of the artist during the Franco-Prussian War. It was purchased by a dealer for \$3000 and re-sold almost immediately for \$8000. It did not change hands for forty years, but in 1912 it was purchased by Knoedler & Co. for \$105,600.

Among the artists whose works have fallen in the estimation of the public may be mentioned Meissonier. A number of paintings by him were sold in 1877 at an average of \$7500. After his death in 1893, the twenty-five pictures bringing the highest prices averaged only \$5600; from 1898 to 1905 his pictures sold at auction in New York averaged \$2898; from 1905 to 1910 some important examples were sold and the average rose to \$6050; but during the last five years the average fell to \$613.

John Linnell is a painter whose name is scarcely known to-day; yet in 1870 sales of his pictures averaged more than those of any other British artist, either living or dead. His painting of "The Woodsmen" brought \$6824 and rose to \$13,120 in 1872; but in 1892 it fell to \$2939.

Our own American painters have shown some sensational advance in prices. "Watching the Breakers" by Winslow Homer was painted in 1891 and in the Seney sale of 1894 sold for \$640; in the Hoyt sale in 1905 it was bought by A. R. Flower for \$2700; and in the Flower sale in 1912 sold for \$10,300. The "Landscape at Sunset" by George

Inness, painted in 1893, was sold by him for about \$500. In the Yerkes sale in 1910 it brought \$8400 and has recently been sold by a dealer to a private collector for about \$40,000—a record price for an Inness.

The second chart is devoted to objects of art other than paintings. For instance, Bernard Van Orley furnished a design for the tapestry "Calvary" which was executed some time before 1542. In the collection of the Duke of Alba, sold in 1877, it brought \$5000; Mr. Morgan secured it from the Dollfus collection in 1912 for \$66,000 and it has since been acquired by Mr. Widener for a price reported to be about \$100,000. A pair of tapestries designed by Boucher illustrating the "Birth of Adonis" and the "Death of Adonis," executed in the eighteenth century, was sold in 1764 for \$200; in 1868 they brought \$820; in 1893 the price was \$1720 and to-day the pair would be considered cheap at \$15,000.

Perhaps the best known piece of Chinese porcelain is the Red Hawthorn beaker made in the eighteenth century, which Mr. Garland secured from the Salting collection in 1900, through exchanges, for about \$6000 and which, passing through the hands of Duveen Brothers became part of the Morgan collection. Thence it passed again through Duveen to Mr. Rockefeller at a price reported to be more than \$100,000.

A Celadon vase, made about the middle of the eighteenth century, brought \$289 in the Bernal sale in 1855 and in the Cooper sale in London in 1910 it was knocked down for \$23,500.

Taking up now a group of prints, we find that the identical impression of Dürer's "Nativity," etched early in the sixteenth century, sold at that time for a mere trifle. In 1898 it brought \$672, and in 1910 sold for \$3727. The identical print of Rembrandt's etching "The Burgomaster Six," dated 1647 and originally sold for \$10, in 1893 brought \$1,900 and in 1909 sold for \$13,420. The highest price ever reached by a mezzotint was that of "Lady Betty Delmé and Her Children" by Valentine Green after Sir Joshua Reynolds. This was published in 1779 at \$3.75; in the Addington sale in 1886 it brought \$250; in the Blyth sale in 1901 it sold for \$4830; and at Christie's in 1914 brought \$9187. A drop in values is shown in engravings by Raphael Morghen. One of the most popular of his prints, "Leonardo's Last Supper" in the first state before lettering, was sold about 1790 at about \$50. The price rose steadily to \$220 in 1821, to \$1500 in the Johnson sale in 1860, and reached the

OBJECTS OF ART	1500	1600	1700	1750	1800	1825	1850	1875	1880	1890	1900	1905	1910	1916	\$
RED HAWTHORN BEAKER (Chinese)															200,000
														Rockefeller Duveen	
															100,000
															50,000
ORLEY, BERNARD VAN CALVARY (tapestry)															25,000
															10,000
															5,000
															4,000
BOUCHER (Pair of tapestries) BIRTH OF ADONIS-DEATH OF ADONIS MORGHEN, RAPHAEL (engraving after Leonardo's Last Supper) DURER - NATIVITY (identical impression)															3,000
															2,000
															1,000
															500
WHISTLER - NOCTURNE (one of set of 12 published 1880 for \$250) REMBRANDT BURGOMASTER SIX (identical print) VALENTINE GREEN (Mezzotint after Reynolds) LADY BETTY DELME AND CHILDREN															300
															200
															100
															50
															25
															20
															10
															5

high-water mark at \$1680 in the Archinto sale in 1862; but at the Ives sale in 1915 an impression marked "fine and rare" brought only \$500.

The work of many of our American etchers is rising rapidly. Whistler is not an exception. His "Nocturne" will serve as an example. It is one of a set of twelve, published in 1880 for \$250, making about \$20 for a single subject. Yet at the Des Tournelles sale in 1905 the "Nocturne" sold for \$1020; at the Ives sale in 1915 it brought \$2900; and in New York in April of this year (1917) it sold for \$3900.

To keep track of these sales is very important for the art collection and still more so for the art dealer and the museum curator. The only reference books on auction sales prices that I have been able to find are the following:

"Art Sales, A history of pictures and other works of art, 1628-1887" by George Redford; in 2 vols.; 1888.

"Painters and their Works: A dictionary of great artists who are not now alive, giving their names, lives and the prices paid for their works at auction." By Ralph N. James; 3 vols.; 1896.

"Dictionnaire des ventes d'art en France et à l'étranger pendant les 18eme et 19eme siecles. Tableaux, dessins, estampes, emaux, etc." By H. Mireur; 6 vol.; 1901-1912.

Prices of objects of art sold at auction in England are tabulated in three annual publications:

Auction Sales. Prices supplement to *The Connoisseur*; quarterly, very fully indexed at the end of the year. The last issue, Vol. XV, is that for 1913 which includes autographs, books, clocks, coins, engravings, furniture, Japanese color prints, medals, miniatures, musical instruments, objects of art, pictures and drawings, porcelain and pottery, regimental badges, silver, snuff boxes, and tapestry. Price one pound (\$5).

Art Prices Current, published by *The Fine Arts Trade Journal*; confined to drawings, pictures and engravings. Price, 1 pound, 11s, 6d (about \$8).

The Year's Art contains a section devoted to sales giving a résumé of the season, total secured at each sale at Christie's and a few other houses, and classified lists of the higher prices brought by paintings, drawings, silver, tapestry, etc.

The monthly and weekly art magazines in England, France, Italy, and Germany publish more or less complete lists of prices immediately after each auction sale. In the United States, outside of the daily press, this information is given in the weekly issues of the *American Art News*. The only permanent record consists of the tabulated lists of paintings sold for \$50 and over, which have been included in the *American Art Annual* since 1898.

There is absolutely no permanent record of the many objects of art, exclusive of paintings, that have passed through New York auction rooms. Such a record would be of great value to the museums, the dealers, and the collectors. It is therefore suggested that the American Association of Museums publish such a monumental work in several volumes, covering fifty years of art sales in New York City from 1870 to 1920. The decorative arts section should be published first because this is greatly needed; it could be followed by the paintings sold during the fifty years.

For future records it is suggested that the art section of the Association and The American Federation of Arts cooperate in the publication of a Decorative Arts Annual.

After discussion it was voted that Miss Levy's recommendation that the American Association of Museums undertake the preparation and publication of a catalog of art auction sales in New York during the past fifty years be referred to the Council with the understanding that if the Council decided not to undertake this work the matter be then referred to the American Federation of Arts. The Council subsequently appointed a committee consisting of Messrs. F. A. Whiting and Henry W. Kent and Miss Florence N. Levy to consider the labor and expense involved in the execution of Miss Levy's suggestion, this committee to report to the Council before final decision is made.

The Association then adjourned.

SESSION OF TUESDAY, MAY 22

Evening

President Howland called the evening session to order at 8 p.m. at the New York Aquarium.

Dr. Charles H. Townsend, director of the New York Aquarium, presented the following paper:

ADMINISTRATION OF THE PUBLIC AQUARIUM

The public aquarium, with its exhibits of living aquatic animals, which has come into existence in many of the larger cities of the world during recent years, may well be classed as a museum of natural history, since it exists for the education and recreation of the people.

In some cities the aquarium is maintained as a feature of the zoological garden, while in others it is a separate institution. An aquarium is sometimes established in connection with the work of a biological laboratory. The aquarium in New York is maintained by the city, its entire management being in the hands of the New York Zoological Society which provides all exhibits from its private funds. The aquariums in Boston and Detroit are city institutions, controlled in each case by a department of parks. There are small aquariums in American and European cities which are conducted entirely as private business enterprises. There are probably not less than thirty aquariums in various parts of the world to which the public is admitted, exclusive of several very small ones connected with biological laboratories.

It has long been the custom of the National Bureau of Fisheries to operate large temporary aquariums at American industrial expositions, and these splendid governmental exhibits have been successful in the highest degree. It is a remarkable fact that at the world fairs of Chicago, St. Louis, Buffalo, Omaha, Charleston, Nashville, and Portland, the government aquarium attracted in each case more visitors than any other single exhibit of the exposition. The larger permanent aquariums of the world attract the attention and patronage of the people to a greater extent than that usually directed toward the zoological garden or the museum of natural history or art.

The living collections of the larger public aquariums consist usually of both marine and freshwater animals. It is the character of the exhibits, whether of marine or freshwater forms, which determines the cost of maintenance in an institution of this kind. An aquarium with exhibition tanks requiring nothing more complicated than mere connections with a city water system, can obviously be operated at less expense than one requiring pumps for the circulation of sea water. It would be possible for any inland city not too remote from lakes or rivers to maintain excellent collections of freshwater fishes and amphibians at small cost as compared with marine exhibits requiring stored sea water. The flow of fresh water being practically automatic, the equipment for operation can be reduced to very simple terms. With the introduction of marine exhibits, the equipment, management, and cost of maintenance would be altogether different. The piping, if for permanent use with salt water, would be specially constructed of vulcanized rubber or other non-rusting material, with fittings to match. An underground reservoir for the storage of sea

water would be necessary, together with rust-proof pumps of bronze for its circulation. Filters would be required for the clearing of the water constantly flowing back to the reservoir. With the use of steam pumps which must run night and day there would follow an increase in the number of employes, some of them being mechanics requiring special compensation. If tropical forms of life were added, water-heating equipment would be required to insure their safety in winter. In connection with the matter of warm water for tropical exhibits in winter, it should be noted that cold water is equally necessary for northern forms of life in summer. A large aquarium in the latitude of New York, for instance, requires a decidedly complicated equipment if its aquatic exhibits include both northern and tropical, freshwater and marine forms.

The construction of a reservoir for pure sea water is imperative, even if the aquarium be located on the sea shore. Experience has shown that the water supply must be maintained in uniformly good condition, unaffected by storms, changes in salinity, winter and summer temperatures, and the impurities of harbors. Unfavorable variations in the water supply cannot be avoided where water is pumped directly from the sea.

The prime requisite for the keeping of aquatic animals in captivity is a plentiful supply of their natural element, to which everything else is subordinate. No completeness of mechanical equipment can make up for deficiencies in this respect. The water supply must be pure and abundant, whether for marine or freshwater exhibits.

The freshwater supply of most cities is good enough for aquarium purposes as it comes from the pipes, but during long continued rains or necessary alterations of the system by the city from time to time, the water may become murky and remain so for weeks. Suitable filters are therefore necessary to insure the clearness of water desirable for exhibition purposes. Filters for fresh water are installed to receive the water before it is delivered to exhibition tanks. In the case of permanently stored sea water, filters are also necessary, but they are so installed as to receive the drainage of the exhibition tanks and return the water to the reservoir clear and free from the impurities created by the feeding of animals.

Fecal matter from fish tanks is less injurious to the water supply than bits of unconsumed food. All visible wastes should be siphoned from the tanks before any disintegration takes place. Stored sea water, like the freely flowing fresh water, must be kept in motion, which renders necessary the continuous operation of pumps.

The distribution of water throughout the building must be so arranged that it can be supplied to exhibition tanks in considerable volume if necessary. Some species of fishes require a stronger flow than others, and all crowded tanks will need it. The supply to each tank can easily be reduced by means of valves to suit the demand, and might not be sufficient if the distributing line of pipe were too small.

The reservoir for the supply of salt water should be located underneath or adjacent to the aquarium building. It should be of sufficient capacity to hold at least four times the quantity contained in the entire series of exhibition tanks which it serves. The larger it is made, the better, the supply as a whole being circulated at a slower rate and the body of water in the reservoir given more opportunity for precipitating its finer sediment, which will seldom be apparent until the annual cleaning of the reservoir. Stored sea water is kept in the dark to prevent the growth of marine algae. The reservoir of the New York Aquarium was filled eight years ago with 100,000 gallons of pure sea water brought in from the open sea, and has been in use ever since.

The reservoir may be constructed with two or more compartments to facilitate periodical cleaning and to give the body of water not in use a period of rest, such treatment having a clarifying effect. All equipment tending to facilitate the distribution of stored water and to preserve its purity is desirable, as its vitiation, even in small degree, may result in serious losses of animal life. The living occupants of the aquarium have no choice but to remain in the tanks where they are placed. Lack of food can be long endured, but the impairment of their natural element is immediately fatal, whether from actual fouling or mere lack of oxygen. They may long survive cramped quarters and overcrowding if the supply of water is abundant. Pure water is the life blood of the aquarium, and the loss of all living exhibits may prove less expensive to an aquarium than the restoration of a damaged water supply.

There need be no deterioration of stored water if it is properly managed; circulation, filtration, and periods of rest for the precipitation of sediment will keep it in good condition indefinitely. Additions to the supply will be necessary occasionally to replace losses from leakage and evaporation. Even after years of use, the increase in salinity from evaporation is negligible, and this could be corrected by the addition of fresh water. Aeration is automatic,

as the surface of the water is exposed to air both in the reservoir and exhibition tanks, and the water is further aerated in falling from the different levels to which it is pumped.

Stored sea water must be protected against discoloration from iron rust, but this is not difficult if the pumps and piping are made of non-rusting materials. Its action on iron pumps and piping is very destructive, and galvanizing affords only temporary protection.

The care of the water supply of any large aquarium is an ever present responsibility that must be kept in mind by each employe of the institution during his hours of duty. While many of the operations relative to it are accomplished by mechanical means, the feeling of personal responsibility cannot be relaxed. The life-sustaining water of the aquarium must flow in purity and abundance at all hours of the day and night. All other features of aquarium management are of secondary importance.

Pure water being the life blood of the aquarium organism, the mechanical means for securing its circulation and preservation are next in importance. The circulating pump, piping, and filters might be compared to heart, arteries, and lungs. The mechanical department of the institution is responsible for the continuous flow of water, its temperature, aeration, and filtration. A considerable amount of machinery is necessary in a large aquarium, the principal features of which are pump, air compressor, filter, and refrigerating machine.

Pumps should be made of bronze, as salt water is not only destructive to iron pumps, but the stored supply of water eventually becomes discolored by iron rust. In most large aquariums the pumping machinery is installed in duplicate as a safeguard against accidents, but the practise of driving air to the exhibition tanks having proved effective when for any reason it was necessary to stop the flow of water, the reserve pump is seldom used. A large air compressor has been used for several days at a time with satisfactory results.

The public aquarium is an institution which exists under the necessity of procuring its living exhibits directly from nature's sources of supply, the animal dealer having but a limited list of aquatic forms of life to offer. The collector for the aquarium must be prepared to go afield whenever specimens are needed for exhibition, and in northern latitudes enough collecting must be done in summer to provide against accidents that may occur in winter. Freshwater forms cannot be had when lakes and streams are frozen, and the winter season is unfavorable for the transportation of collections from the tropics.

Exchanges of specimens with other aquariums are helpful only in varying the exhibits, since each must do its own collecting, and aquariums in the United States are few in number and so located as to be under similar geographic limitations.

The collecting of aquatic animals involves their transportation in weighty tanks of their natural element, which moreover must be kept pure in transit. This compulsory procedure is always expensive. Experience has shown that the handling of fishes and other strictly aquatic creatures intended for exhibition alive can seldom be entrusted to fishermen. The untrained collector fails to appreciate the importance of taking those precautions in capture and shipment which are necessary for success. Aquatic animals must reach their destination not merely alive, but able to endure the conditions of captivity, always more or less unfavorable to wild creatures.

In addition to the necessity of guarding the water supply of an aquarium every hour of the twenty-four, and the daily care of the living exhibits, the staff of a large aquarium has the added duties of a public museum. There are crowds of visitors to be looked after, supplies to be purchased, machinery to be renewed, and a heavy correspondence with the public, the press, and with zoologists working in many lines. There are also labels, circulars, and pamphlets to be prepared. The duties of clerk, book-keeper, stenographer, etc., are, of course, similar to the duties of such employes in other museums.

In the matter of assistance to teachers of biology alone, the New York Aquarium has stocked small marine aquaria in more than three hundred school houses in Greater New York. The seashore collecting for this work goes on summer and winter.

Much of the work in an aquarium is not different from that of the average curator in a large museum of natural history, but we believe the duties of an aquarium curator to be more difficult, as all the exhibits in his department are living, moving creatures, to be catered for according to their special needs.

The feeding of as large a collection of fishes as that maintained at the New York Aquarium is a matter involving no small amount of labor and expense. The food consists of meat, fish, clams, sliced, chopped, or minced as may be necessary to suit the size of the specimens. The whole collection is fed carefully in order that there may not be an unnecessary amount of food left unconsumed, which would have to be removed to prevent its affecting the water. Much of the food used in an aquarium is obtainable in the markets and

consists largely of food fishes such as cod and herring. Preference is naturally given to the cheaper kinds of fish when the supply of such is abundant and when they are of such a character that they can be cut and prepared to advantage. Very little meat is required, but clams are used in great quantities. In addition to such foods as are procured in the markets, a considerable supply of natural live food is brought in from the adjacent bays and shores by the aquarium collector, consisting of minnows, shrimps, mussels, crabs, marine worms, small soft clams, and beach fleas or amphipods. More or less live food is always kept on hand in reserve tanks. In summer when live food is easily obtained, a great deal of it is used, being better for the collection in general, while in winter a larger amount of market food is necessarily consumed.

The interesting little sea horses, usually to be found at the aquarium, can be kept to good advantage only when they are well supplied with *Gammarus*, a very minute crustacean secured by gathering along the beaches bunches of fine sea-moss, which they inhabit. The sea horses in the tanks are usually seen on the bottom picking this minute life from the algae. Even under the best conditions it is difficult to supply the sea horses with a sufficient variety of the live food required, and specimens have seldom lived longer than a year. It has been found that the longer a sea horse tank can be left without cleaning, the better are the chances for maintaining colonies of *Gammarus* for its food.

Young trout and salmon in the fish hatchery are fed successfully on minced liver, and they are also very fond of herring roe. At the New York Aquarium herring roe has proved to be an excellent food for young whitefish.

All the fish food from the markets is headed and eviscerated before being cut up, as market fish are frequently kept too long for any part of the viscera to be wholesome.

The cost of the market food used at the aquarium averages about \$150 a month. The various kinds of live food brought in by the collector in connection with his regular work of capturing specimens for exhibition is valued at about half that amount.

The natural food of most fishes consists chiefly of other fishes, which may at times be their own young. Fishes in general are feeders on animal life, and their food supply includes practically the whole aquatic fauna. Fishes may be described as not only piscivorous and insectivorous, but as feeders on crustaceans, mollusks and worms.

Plants do not constitute much of their food, although a few kinds feed freely on them, such as buffalo fishes, carps, and minnows. The young of many fishes nibble at tender plant shoots.

The New York Aquarium, apparently the largest institution of the kind and having about one hundred exhibition tanks, usually exhibits about two hundred kinds of fishes and other aquatic vertebrates. The total number of specimens in the building usually exceeds four thousand. The aquarium is open every day in the year, and its attendance for many years has exceeded five thousand persons a day. There are generally twenty-five or more employes on regular duty. The library, attached to the director's office, contains about one thousand volumes and is limited to works relating to fishes and aquatic life in general.

The remainder of the evening was devoted to an inspection of the Aquarium and an informal smoker.

SESSION OF WEDNESDAY, MAY 23

Morning

The morning session was called to order by President Howland at 10 a.m. The general topic of this session was "Museum Instruction." The program was prepared especially with reference to the interests of the group of museum instructors who affiliated with the Association at the Washington meeting in 1916. In connection with this subject there was a special exhibition at the Metropolitan Museum of Art, including posters, photographs, printed information, etc., relating to the educational work of museums whose instructors have been members of this group. The purpose of the exhibit was to give opportunity for a survey of the educational activities of a number of museums.

The Chair introduced Professor Homer E. Keyes of Dartmouth College, who presented the first paper as follows:

COMMERCIAL TENDENCIES AND AN ESTHETIC STANDARD IN EDUCATION

I once had a young friend, who, after graduating from college, entered his father's business—the most considerable department store in a thriving city of the second class. Early pride and enthu-

siasm still mantled him when he took me through the place; millinery and phonographs, shoes and toys, and, particularly, miles of rugs and carpets, furlongs of draperies, and acres of furniture. The store gloried in its repute for the largest assortment of these things within three states.

It was something of a new experience to me to observe a commercial enterprise of the kind from the point of view of its owners, and to note their manifest satisfaction in every aspect of it. Statistics certainly proved the primacy of the place, and I trust that I appeared sufficiently overwhelmed by their indisputable majesty as they were arrayed before me. But my mind was really busy with something else.

Here were great show windows dominating a chief thoroughfare. Here likewise were endless display counters and exhibit rooms alluringly arrayed to encounter and to arrest the eye of daily passing thousands. To me, at least, the implication seemed plain: Back of these goods stood the reputation of a great house vouching for them at all points and urging (politely, subtly, of course, but none the less urging) their purchase. And the public, relying upon this reputation, was, every hour in the day, accepting the store as chief mentor in establishing standards not only of utility and value but of taste. The influence of my friend and my friend's father was, through the medium of their business enterprise, extending into virtually every home, big and little, important and unimportant, in the city. The weight of responsibility upon these two amiable gentlemen which this, after all, somewhat obvious fact involved impressed me so much that I asked my friend if it weighed at all upon him. But he only looked at me with a cold and fishy eye. "We sell the public what it wants," he said, "and our prices bear comparison with those of any department store in the United States."

At present, the three most potent educative forces among us are, I believe, the newspapers (and certain magazines), the movies, and the department stores. The motto of each of them is "We sell the public what it wants." It has to be. Recently you may have read, as I did, of an idealistic Japanese editor who omitted from his paper all mention of a certain gaudily tinted and highly flavored scandal, the details of which he felt would be debasing to his readers. Unfortunately for the outcome of this highly altruistic experiment, his readers immediately discovered the omission, and, being obliged to satisfy their curiosity by expenditures for rival journals, set up a

hullabaloo that nearly wrecked the idealist and his paper into the bargain.

About a month ago there was held in this city a convention of business and educational bodies for the purpose, according to report, of discovering means "to crystallize into action a nation-wide campaign to encourage, by product, precept, and practice, a higher standard of furnishing in American homes." To this end some five hundred business organizations are about to set forth on a culturistic war path. Without troubling overmuch as to the miracle implicit in "crystallizing into action," we cannot help wondering what internal revolution the union of these five hundred manufacturers is to undergo, what standards it will erect for itself, what eradicated censorship establish, before it will actively cooperate for the beneficent invasion of the American home. That question apparently did not arise in the meeting. Some very able business men spoke of the necessity for preventing infringement upon protected designs; and some very learned educators spoke rather vaguely, but with most affectionate respect, about art—as learned educators will, under pressure of necessity. But I observed one sentence of comment that is worth a moment's pause. It is this: "In an overwhelming majority of homes, it is the woman who puts art into the home. The measure of her success depends entirely upon her opportunity for education."

I have a ghastly suspicion that a good many of those who are behind the home-elevating movement are filled with the gladsome belief that the home is a place where art may be put, and that art is something that may be lugged about in gripsack or trunk and put wherever yawns an artless void. And I presume that such, very largely, is the public attitude.

The idea that art is not a substance but an emanation—a spirit if you will, inherent in nothing, a vibration of beauty set in motion by the interplaying influence of things brought into right relations—is, perhaps, a little difficult to grasp, certainly as a guiding principle in trade, where volume production and volume sales are the essential desiderata. One can look to keen manufacturers to recognize demands and to cater to them. But the education of the taste which produces those demands ought not to be left to them. There is too much danger that it will prove a taste for novelty rather than for excellence.

To return, however, to the woman whose opportunity for education

measures her ability to "put art into the home." We can admit, without much discussion, that, in so far as the woman is usually the home maker, the surroundings which represent her various environmental adjustments will afford a fair index to her esthetic cultivation. Her means of acquiring this cultivation are manifold. First, there are weekly and monthly publications innumerable to tell what is being done and to inculcate proper notions by picture and caption. By this means she learns that since the purpose of the dining room is to suggest indifference to bodily appetites, the coloring should be in softly spiritualized tones; also that a sausage-shaped pillow deftly placed on the floor of a hall bedroom always imparts an air of spaciousness. She also derives the esthetic and economical suggestion that no home is really happy without a breakfast room. The Sunday news-sheet gives hints on cretonnes, interspersed with lists of tested receipts for the weekly viands of the family, and unerring directions for removing inkstains from upholstery. There is likewise a constantly waxing library of sprightly and often excellent books.

In addition to literary sources of information, there are the lady's usual friends, whose reach is much the same as her own, and a few besides who think their own thoughts and do their own way and, while interesting, are considered dangerous. And lastly, there are those vast industrial colleges, the department stores, no one of which can be considered really complete without its exemplification of the current mode in a "house bombastic" or a "house tootling." Of course there are, too, those professional beauty doctors, the decorators, ready to supply an adequate complexion where none existed before, but their function is surgical rather than educative.

Certainly our home maker has plenty to choose from, and has it brought directly to her door. But, the larger the chance, often the more difficult the selection. No two persons' needs are the same. How then make the proper adjustments necessary to suitability to existing circumstance? The problem of establishing a satisfactory standard remains.

When all else fails, we fall back upon public education. It must be within its province not only to instruct in the three R's, in hygiene, breadmaking, and the theory of government, but to impart, or rather to develop, high standards of esthetic taste. That sounds like quite a program of responsibilities. Quite likely it is an impossible one; but certainly we have increasingly elaborate courses of art teaching in our public schools, and it seems pertinent to inquire to what end, unless it be the elevation of public taste.

Somewhere in the vocabulary of those who practice the "science of being pedagogs," as the President of the United States, in academic days, once phrased it, I have heard the test expression applied to a subject of school study: "Does it function with life?" Like all other simple linguistic poultices to ease the pains of thought, I have tried to keep this one on my index expurgatorius. But it refuses thus to be shelved. It is too apt. Personally, however, I should apply the query as a test to teaching and not to subjects taught; for all subjects, since they are, in one way or another, born of human endeavor, must function with life. But the teaching of them may not. Hence we find our young people, after years of struggle with French and German, unable to speak these languages; after years of encounter with English, meagerly expressing themselves in a patois of slang; after years of "learning" art, quite incapable of exercising esthetic discrimination. Now it may be that art teaching in the public schools is not for the purpose of developing taste. It certainly was not when, in the days of my youth, I attended public school in Brooklyn. But if it is not mainly for that purpose, I fancy that equally good results could be obtained with far less cost in other ways.

I have laid stress, too, upon good taste as expressed in the home and in homely surroundings, because I believe this to be fundamental to civic good taste and to most community progress in the direction of social consciousness; and further, because I have observed that studies in design and composition, and in reproducing and occasionally interpreting the outward aspect of things, seem often to carry no farther than themselves. At best, such practice as the schools can give in these things, even where the visible results indicate considerable latent sense of relationships and no small manual dexterity, can provide little more than the grammar and rhetoric of art: to serve, on the one hand, in rare instances as the tools of genuine creative expression, and on the other, as keys to adequate understanding.

In either case the corrective stimulant of intelligent contact with the best that has been done is indispensable. Whatever the line of his endeavor, the pupil should be encouraged to compare his results with those obtained by master craftsmen. There is no better way for him to come into knowledge of patient thoroughness in workmanship and justness in arrangement and proportion. And this is one thing, I believe, for which museums exist: to provide material for comparison. We are just beginning to find this out. It was the museum folk who first made the discovery that their function is not that of Cerberus

guarding against intrusion the shadowy place of dead and forgotten things; now they offer invitations more generous than our educational system is fully competent to accept. Our school children learn to use libraries as natural aids in all their studies. They still look upon museums as places to be wandered through till feet ache and eyes rebel and the long procession of the past has undergone indiscriminate and exhausting review. And so do most grown-ups. There is even now a great deal of reference work done from lithograph plates in public libraries that should be done at first hand in museums. Reform in that direction has taken place in this very museum of natural history, and, as I understand it, in the face often of stupid indifference and opposition.

Every step in art, then, which our public school children take should have its museum reference, just as every step in history or literature has its library reference. I do not argue, of course, for the elimination of contemporary exemplification; but it should be used sparingly and, again, only against the background which the museum can supply. What is modern is to the average contemporary eye excellent, whether it is in fact or not. A certain superficial cleverness and smartness is easily mistaken for genuine excellence, and imitation of an effective style too readily supplants sincere self discernment.

Of course it may be argued that the procedure recommended is sure to prove destructive of original freshness and naïveté. My answer is that, technically, there is no such quality in art worth the name. The materials used may be restricted to lowest possible terms; convention may restrict the forms; but whether we have a Papuan war canoe, an Egyptian cat, an early Italian Madonna, or a Sargent mural melange, if it is worth while as art and not merely as a culture-historical specimen, it will exhibit, within the scope of its more or less clearly defined limitations, a real technical mastery.

How to link more closely the museum and the public educational scheme of things I am not prepared to say. Those in the thick of things can find the way if they will. Neither am I sure that I know whither my remarks lead. But this I do know: that while we deliberate here, the world that we understand is in dissolution. Those who will be called upon to reconstitute it are the young people in the schools today. And in so far as the world democracy, which we are told is to ensue, shall be progressive rather than stagnant, responsibly constructive rather than anarchical, noble rather than debased, depends, in no small measure, upon the standards which we educators of today are able to make a part of their lives.

May you who are the custodians and interpreters of man's handiwork, of man's revelation of beauty since the dawn of time, have opportunity to bear your share of this high responsibility.

The second paper was presented by Miss Ann E. Thomas, assistant in the department of education, American Museum of Natural History, as follows:

MUSEUM INSTRUCTION FOR THE BLIND

Instruction for the blind at The American Museum of Natural History is so arranged that both the children in the public schools and the adult population of Greater New York may take advantage of its opportunities. In the grades in Manhattan and the Bronx and in the Washington Street School, Newark, N. J., there are approximately ninety totally or partially blind little folk, while in New York City the number of sightless adults reached by the Museum approaches seven hundred. The school children are aided in their classroom work by circulating collections of mammals, minerals, birds, and large relief globes of the world; for special lessons, they come at regular intervals to the Museum; the adults, on the other hand, are invited to free evening lectures carefully adapted to their needs.

Experimental instruction for the blind began with the opening, in 1909, of a museum room especially arranged for those who "see" with their fingers. In 1910, the Jonathan Thorne Memorial Fund was given to support the work. The bequest pays all expenses, not only those for lectures, teachers, and illustrative material, but also the carfares of children and adults who could not otherwise afford to come. At present, because of the many difficulties in the way of organized adult attendance during museum hours (9 A.M. to 5 P.M.), the room for the blind has been given up; class work for the children in the office of the instructor and lectures in the auditorium for adults give broader fields for usefulness.

Two principles underly the work carried on for the blind: talks and lectures are (1) so selected that they bring topics of interest, pleasure, and profit to the every-day life of the blind person, and (2) so illustrated in detail by objects that may be felt, or, as in the case of bird songs, by music that may be heard, that the blind can readily visualize the subject under discussion. It is the application of

these two principles that has directed the instruction into its present channels, although, of course, it is not necessarily limited to these in its future development.

Blind children from the public schools come to the museum for instruction. Each class receives individual attention, thus giving the teacher opportunity to select lesson subjects suitable to her needs. This is quite necessary, as the ages, degree of blindness, and average intelligence of the pupils vary considerably within the different groups. Moreover, the small number of pupils—from nine to twelve in a class—makes it possible for each child to “see” every article under discussion. At the day and hour convenient for them, the children with their teacher and guides visit the museum. The lessons are conducted by museum docents, and in the spring course of this year five topics were selected by each class from the following list of ten talks on nature study, geography and travel, industrial life and history: (1) *Our Native Birds*. Birds of New York, their nests and songs. (2) *The Solar System*. Its origin, the sun, the planets and their satellites, illustrated by a planetarium. (3) *Flowers of the Springtime*. Fresh flowers from the woods and fields. (4) *How Our Fur Friends Spent the Winter*. Some of the animals which hibernate (the bear, woodchuck, etc). (5) *A Trip to China*. Houses, clothing, dolls, etc., from China. (6) *A Journey in Mexico*. Houses, clothing, basketry, pottery, etc., from Mexico. (7) *Methods of Transportation*. Models of boats, steam engines, pack horses, a small hydroplane, and the Panama Canal. (8) *The Story of Cotton, Wool, and Silk*. Cotton, wool, and silk from the raw material to the finished fabric. (9) *How Cloth is Woven*. Model looms and examples of plain weaving, twills, etc. (10) *The Way in Which Primitive People Live*. The food, corn, mortars and pestles, fire drills, and homes of some of the American Indian tribes.

Not only do the children come to the museum, but the museum, by its circulating collections, is carried to them. Nature study material—Native Birds, Small Mammals, Minerals and Rocks—large relief globes of the world, and plaster cast models (which, however, are too perishable to be of continuous service) are delivered at the schools to be used during the lesson hours as the teachers desire.

The constant moving of the blind of a great city, their sickness, helplessness, poverty, and inability to face inclement weather make it difficult to reach them except by lectures. The museum has a directory of the names of about seven hundred blind persons, which

it endeavors constantly to revise. With the aid of this and the various charitable institutions of New York City it gets its invitations into the hands of all interested adults. The lectures are free. They are given in the evening and Boy Scouts kindly volunteer to act as guides. Carfare to and from the museum is provided whenever necessary. Among the speakers, during the last few years, have been Ernest Harold Baynes, Louis Agassiz Fuertes, Ernest Thompson Seton, Charles Crawford Gorst, and G. Clyde Fisher. Before the talk, the animals, birds, or flowers about which the lecturer is to speak are on exhibition in the hall where they may be carefully handled under guidance.

Indications of the value of the instruction reach the museum occasionally. Sometimes they come from the happy faces of the blind as they leave the foyer with their hands full of flowers; sometimes a social worker reports that an old lady has said that her visits to the museum offer her her only opportunity of "going out." The average attendance at the evening lectures is three hundred blind and guides.

From the school children, of course, the museum gets direct expression of the helpfulness of the work. The teachers are regular in their attendance and the classes write compositions based on the lessons. For the 1917 spring term, the total number of blind and guides has been about three hundred and fifty. Perhaps quotations from two letters received this year will best give a summary of the worth of museum instruction for the blind. "A shout of joy went up when I read your letter to the class. They have been asking when they were going to the museum." "General class instruction is easier because of their visits to the museum. Children of little experience in life and meagre opportunity for general information speak with some ease and familiarity of animals, birds, people, and customs about which they have been informed under your guidance. I thank you heartily in behalf of these children who scarcely realize to what extent you are broadening their horizon."

In response to a question as to what has been done in helping the blind to appreciate objects of art rather than those connected with geography or the sciences, Mrs. Agnes L. Vaughan of the Metropolitan Museum of Art stated that the Metropolitan Museum has offered talks on sculpture, music, and other art subjects to the adult

blind and to the children from the public schools. These talks are illustrated with material adapted to the comprehension of the blind. Mrs. Vaughan stated that this work at the Metropolitan Museum is not as thoroughly organized as the work described by Miss Thomas at the American Museum. Mr. Kent spoke of the unusual ability of some of the blind to appreciate the artistic quality of sculpture.

The four papers following show a development of experiments in the use of museums for instruction in the history of civilization. This subject was first presented to the Association at the Milwaukee meeting in 1914 in a series of papers arranged by Miss Anna D. Slocum. Progress in the experiment was reported at the Washington meeting in 1916.

The first paper of this series was presented by Mrs. Agnes L. Vaughan, instructor in the Metropolitan Museum of Art, as follows:

CORRELATING INSTRUCTION IN DIFFERENT KINDS OF MUSEUMS

The expanding scope of museum instruction constantly offers new possibilities for broadening further the field of activity, and today I wish to direct your attention to one of these suggestions for increasing the usefulness of our work.

Many museums of all classes have established correlation with school courses, but as far as I know there has not been such cooperation between the different kinds of museums in a community. In referring to different kinds of museums, I have in mind particularly those devoted to natural history and ethnography, to industries, including modern industrial processes and machinery, and to arts. In many instances the community is served by one institution which contains more than one or perhaps all of these subjects under one roof. In such museums the cooperation is simpler. Where the organization is not unified, as in New York, the connection between the instruction service in the different museums consists of a friendly sympathy with the purposes of the work, sometimes a friendly rivalry in obtaining results, but no studied combination of forces to achieve a larger result.

My suggestion is that the instructors in the different kinds of museums in a community should collaborate in preparing a course of study in their museums that would fit into school work and would relate the different parts of the study in such a manner that the

pupil might realize the unity as well as the variety of man's interest. The beginnings of things could be articulated with the most highly developed expression of art or of mechanical genius, and the student roused to an appreciation of man's invention and the power of his application throughout the existence of the race. Such study might help to instill a sense of the dignity of labor as well as the glory of creative achievement, the satisfaction of work in spite of the drudgery of modern industry.

What should be the method of the collaboration? What subjects appear suitable? What classes of students would be benefited? The method may consist of the preparation of a course of study on a selected subject to be carried on with a group of persons using museum objects and related material. The course should be prepared by the instructors with such consultation as would be necessary to make the course unified. The outlines would refer the student from one chapter of the subject to another in order to emphasize the unity of the whole and to stimulate interest in the phases which follow.

Let me give an example: A class in commercial geography is studying the silk industry. The entire study can be carried on outside of the schoolroom. The natural history museum presents the opening chapters in the study of the silkworm, its life history, culture, history of culture, and distribution. The industrial museum contributes the material for the next phase, or if the community lacks a museum of industries the manufactories may be utilized. Here can be studied the processes of manufacture, making of the thread, weaving, dyeing, and the history and distribution of processes. The art museum follows with a study of pattern; the principles and history of design; the history of silk in Europe; silk fabrics and their uses, as in costume, furniture, rugs, etc. The study could be completed by visits to shops to view present day fabrics and note designs. The class should be encouraged or required to make notes and sketches and to procure samples of present day fabrics to compare with the historic for texture, quality and design.

A number of subjects suitable for museum study fall under the head of the history of civilization. For instance, the fulfilling of man's needs:

FOOD

The Science Museum:

Materials.

Primitive preparation.

Early fire-making methods.

Primitive utensils, as gourds, shells, stone and wooden vessels, baskets, pottery.

The Art Museum:

Utensils: stone, pottery. The principles of beauty in utility.

Shape, ornament.

Connection with rites and ceremonies.

CLOTHING

The Science Museum:

Skins; shaping, sewing, ornament.

Beaten fibers.

Woven materials: grasses, unspun fibers. Spun fibers. Weaving. Uncut costume (here reference may be made to a phase of the study to follow in Greek dress). Design and ornament.

The Art Museum:

History of costume.

Another section of the study might be devoted to shelter, completed in an outline course in architecture; or in furniture, from the *parfleche* of nomadic North American Indians to the splendid *cassone* of Renaissance Italy.

History and geography are our mutual contact points with the lower schools, but with specialized classes, like the schools of design, we find our common ground in the principles of art, which are the same whether applied to barbaric or to historic patterns, although young designers sometimes forget this fact and lose sight of the essential elements of design in their desire for novelty.

If people like Aztec gods instead of Greek flames, or Peruvian potatoes instead of Persian pomegranates on their brocades, let the designer draw potatoes, but let him remember that the laws of design do not vary with the motives used.

It might be argued that this instruction is the duty of the school and not of the museum, but museum instruction consists chiefly of exposition of its collections, which would include analysis of design of all ornamented surfaces, whether of Cherokee or Chinese origin.

Besides the regular classes in public and private schools, I have in mind a special group of students who would benefit by the collaboration of museum instruction, and that is the classes from the schools of salesmanship in the large department stores. There are also other classes, not only of students, but of such groups as factory operatives, whose monotonous repetition of the same motion without a vision of the finished product quenches any joy in work. To bring to this dull labor the realization of its place in a long cycle is to bring to the worker pride in his own share and to ennoble the drudgery of commonplace occupation.

Miss Delia I. Griffin, director of the Children's Museum of Boston, presented the following paper:

EXCHANGE OF MATERIAL FOR EDUCATIONAL WORK

It is not necessary to present before this body any detailed description of the growth of instruction in museums during the past ten years. The report compiled by the Secretary of the Association and published during the past winter by the United States Bureau of Education shows in most illuminating fashion the manner in which this phase of work has come to the fore and taken an important place in nearly every one of the 250 or more institutions of the country. While the particular form this instruction assumes may differ largely in the museums of art, science, and history, varying from talks and stories for children in the primary school to lectures for the college student, one problem is constantly facing the instructor who carries on this work—that of obtaining the material upon which to base his lectures.

A few of the wealthier museums can, of course, secure pictures, lantern slides, motion picture films, and other aids, to an unlimited extent. But many a museum has been unable to present courses of lectures which would have furthered its value in the community greatly, because of the prohibitive cost of illustrative material. It has been suggested that some plan of cooperation might be established whereby articles could be circulated among a group of museums giving similar lines of instruction, and thus a maximum of material secured at a minimum of expense.

Naturally, every growing museum does gather more or less of this material for its educational work each year, even though the supply

may be far less than the demand, and despite the fact that slides or pictures may be used for one series of lectures only and then stored for weeks or months before the next call for service comes. Also, in the consideration of this problem may be noted the fact that nearly every museum has special opportunities for securing matter that is valuable and unique and that could not be gathered by other institutions. In view of these points which have been in the minds of museum educators for some time, the speaker has been asked to present briefly the experience of a small group of instructors who have been exchanging material for two or three years, and to bring before the Association the question of using to the best advantage not objects, but ideas and subject matter for educational work.

Four illustrations of such exchange may be mentioned. First, The Children's Museum of Boston has an exceptionally good collection of Japanese objects selected for the purpose of showing the life, customs, and ideals of that country. By a happy combination of circumstances, we have received a series of stories or talks based on this exhibit and portraying in vivid fashion exactly the points that should be at command of the instructor who takes a class to these cases. The talks were written by a cultured Japanese who has lived some years in America and who, by reason of his knowledge of the two countries, his acquaintance with museum conditions, and his real ability for entering into the life of young people, has been able to give us material that is unique for its truthfulness, suggestiveness, and utility. These stories, which are used in one form or another almost every week in the Children's Museum, have also, for the nominal cost of typewriting, been secured by the museums of Newark, N. J., Worcester, Mass., and San Diego, Cal.

A second illustration: The Worcester Art Museum has for some years carried on a series of Saturday lectures which have proved to be very popular in that city. Through the courtesy of Miss Sawtelle, outlines of all these talks were sent to the Children's Museum, and by their aid it was possible to give a similar series to the young people of Boston, with probably one-quarter of the work on the part of the instructor that would otherwise have been necessary.

Illustration number three: Last month the speaker was asked to address a scientific society on "The Why of Children's Museums." The organization was about thirty years old and several of the audience were charter members accustomed to the old type of museum with hushed atmosphere and exhaustive, if not exhausting, series of

specimens. It seemed necessary to make out a strong case for the museum of quite a different type and to describe the work of more than one institution. Therefore, a request for lantern slides showing the work done there was sent to the Children's Museum of Brooklyn and promptly honored. By portraying the activities of the two institutions it was possible to describe the functions of the modern museum definitely and convincingly, as the comments and questions of the listeners proved. Without the slides from Brooklyn, the story would have been much limited and have lost half its force.

The fourth example of such helpful exchanges is found in the use of pictures, a representative collection of which is shown on screens outside this assembly room. After these pictures have been used by the Children's Museum we trust there is a much larger field before them in the form of exchange material. The use to which these pictures are to be put and the purpose in securing them are outlined in a brief sketch by Miss Isabel Butler, who made the selection, as follows:

Rather more than a year ago, a sub-committee of the Woman's Education Association determined to give to the Children's Museum of Boston a collection of objects illustrating the art and life of France, supplemented by two hundred and fifty photographs of French architecture, painting, and sculpture, suitable for the use of children. On inquiry in Paris, it was found that in this time of stress it was impossible to collect the objects, but the set of photographs, though somewhat incomplete, has reached us. How such a collection may be used as a talisman to history, made vivid to children by story-telling or plays, used as stepping-stones to the appreciation of examples of French art in larger museums, is told in other papers. It is for us to consider its value to the teacher and the reason for choosing France from among the European nations.

French art attracts us by both its continuity and its variety. It can not be summed up in any one period. Other European nations have their great moment in art and then fall asleep, perhaps for centuries. French art has gone on from age to age; but it is always coming out in a new place, always taking us by surprise. One is hard put to decide whether her great period is Gothic, Classic, or Modern. But always the work goes on, and always, among the artists who feel the worth of marching in line, appear those who take delight in new ventures.

And this art which renews itself thus with each century is of special interest to the student, because it so closely follows and reflects the life of the age that made it. In her painting there is a long line of good observers: Fouquet, Le Nain, Chardin, Millet, Manet. In her buildings we can trace the chief periods of her history. Even the small collection of photographs here exhibited lets us follow the story of France. The great monuments left by Rome, from the Mediterranean to northern Rheims, reminds us how thoroughly Gaul was Romanized, and why the French, to this day, rank as a Latin people. The long break in the art of building denotes the barbarian invasions; the Romanesque, the dominance of the Church;

the fortified castles epitomize feudalism; the freer Gothic gives us the growth of guild and commune—the rise of the Third Estate. For it was a popular art, despite its soaring idealism, that built the great cathedrals, which still dominate many a town of northern France. Then follows the Renaissance, the centralization of government, the decline of the communes; and art in the seventeenth and eighteenth centuries is aristocratic, a thing to delight the great nobles—it is the age of palaces, of gracious town houses, of exquisite painting. But at the end of this same eighteenth century, France developed the idea of democracy. The old society was broken up, and after the revolution and the empire, art becomes individualistic. In the architecture of the nineteenth century, we find no new style but the revival of many. In painting and sculpture, the schools follow one another in quick succession—romantic, realistic, impressionist; each recording its protest against tradition, its plea for fresh expression. It is a long story to review so hastily “Twenty centuries,” in the words of M. Hourticq, “of fine culture and active civilization, of life during which a society has been made and remade continuously, and has decked its changing manifestations with new forms of beauty.”

Yet the art of France, for all it follows so closely her own national life, has not been an isolated art. For centuries France has been a land to which people have liked to go and one where they have found much to learn. After Rome went down before the barbarians, she was the first of the western nations of Europe to find herself, build greatly, to express herself in the vulgar tongue, to acquire a sense of national life. She carried to the highest pitch the medieval institutions of feudalism and chivalry; she led in the crusades, she thought out the new art of Gothic building, the new art of intricate verse-making, the new art of short-story-telling—all these she passed on to her neighbors. And still, today, as in the Middle Ages, we go to her for ideals and for craftsmanship. Just as, in the fourteenth century, Chaucer learned his trade of story-telling from French masters, so our present writers look to her for lessons in form; our young architects go to Paris to study; our painters have learned from the French impressionists to let the sun shine out on their canvases.

But today, in speaking of France, one can not keep the present moment from our mind. Now that we have joined hands with her in a great struggle, now that she, hard pressed and invaded, looks to us for help, surely it is the time for us to reckon up our age-long debt to her who for centuries has done much for all the finer sides of living. Let us teach our children to know her by the grace and strength of her art. Let us, by studying the work of her hands and her brain, recall how long she has stood as leader and teacher to Europe, and so to us—a teacher who inspires but does not impose, who offers us not a system to live by but an idea to follow; a leader who brings us gallantry and shrewd sense, ardor and an indomitable endurance. We see her today as Kipling saw her:

“Broke by every known mischance, lifted over all
By her light, sane joy in life, the buckler of the Gaul;
Furious in luxury, merciless in toil,
Tireless with strength that draws from her untiring soil,
Strictest judge of her own worth, gentlest of man’s mind,
First to follow truth and last to leave old truths behind,—
France, beloved of every soul who loves his fellow kind.”

The next paper was presented by Mrs. Laura W.L. Scales, museum instructor in the Museum of Fine Arts, Boston, as follows:

THE MUSEUM'S PART IN THE MAKING OF AMERICANS

If there may be a text without a sermon, the text for this paper is found in the remark of a little girl who was visiting the Boston art museum. She was in the room of colonial portraits, and while she was looking up at the faces of Washington and Adams, Warren, Hancock, and "Dorothy Q.," she was told that these were the people who had made the beginnings of our country and had passed it on to us to continue their work. "Oh," she interrupted, "but America is all finished now!"

America finished! Until three years ago, it seemed merely amusing—the talk of such little girls—but now, as we echo her words, we pause, realizing how seriously we have been "put to it" to find out, not when was America finished, but what and where is America, and who are Americans? For even in Boston we have given up answering these questions by referring to the Mayflower. From every corner of the globe the answers had been coming in upon us, until we found ourselves in the midst of a civilization as difficult as it was rich—a civilization which presented the twin problems of how to conserve the riches and how to unify the peoples poured into our midst.

It is only a matter of course that museums stand ready to do their part toward these problems, for it is not by accident that a large proportion of museum visitors are foreign-born. The immigrant and his child want the museum; the Italian bride from her far-away quarter of the city goes there still in her orange blossoms; and the newly-arrived Russian boy goes with his word or two of English; and a Madonna's smile or a brass icon with a bit of Russian inscription knits for them their past with this present. For where so clearly as in the museum can the immigrant be encouraged to believe that in this new world are continued the good things of his old one? Englishman, Frenchman, Japanese, Italian, Syrian—all may come to the museum and feel more at home than the native-born American, to so large an extent do their countries furnish the materials of which our art museums are made.

But it is not only because he finds there a familiar object that the immigrant goes to the museum; it is because he enjoys the things he sees. Appreciation and taste are his long inheritance; it is second nature to a Japanese to care for flowing line and to a Spaniard to revel in

color. And the immigrant, ignorant and unlettered man that he is, has not yet learned the American way of spelling Art with a capital letter and setting it apart for women's clubs and moneyed connoisseurs. The eagerness of a class of little Russian Jewesses is a pleasant thing to see. "Oh," they exclaim, when the docent apologizes for keeping them a moment beyond the hour, "we could stay here seven hours."

And though it is obvious that there is not in all Italians a bent toward painting, nor is there music in all Germans, nor a literary gift in every Englishman, yet there is undoubtedly a diversity of gifts, whether of tongues or of arts, and America has become the potential heir to them all. Will she accept her good fortune? Or, as the Syrian promptly discards his fez, and the Italian woman her scarf, because they are un-American, must they also learn to discard as bad form their leisurely grace of manner, their craving for beauty, their simple faith in things mystical?

The museum is here to help voice the country's answer. "Let democracy, if need be, have its ready-made American clothes," one can imagine it saying as its doors swing open to offer its message to street and school, "but to love beautiful color, to embroider a tasteful pattern, to mold, to sing, to paint—these, too, are 'good American.' So good are they, that not only is there money in them, but opportunity and honor in the new country; so highly are they valued—the museum itself is evidence—that not only the state but private individuals spend their time and their money to cherish these things. America has need of the man who comes to make beautiful her paths as well as to dig her streets and to lay her sewers." And if, so speaking, the museum can bring home to the immigrant his chance to help enrich the head and heart of his new country as well as her pockets, to serve the public and not merely the taskmaster on the job, will it not be giving him an inducement toward loyal citizenship to which he is eager to respond?

The concrete ways in which the museum tries to make clear its message are the habitual ways of its daily work, with merely a change of emphasis or an added effort at interpretation. At the Museum of Fine Arts in Boston, we have this winter been keeping in mind this work with the citizen. There is nothing startling to report, but a summary of what has been done may open up an exchange of ideas to further such work.

Lectures to foreigners have been given in their own language, both in and outside the museum, with the use of lantern slides illustrating the museum collections. Especially interesting is the work done on

his own initiative by an Italian among Italians of the suburbs. Mr. Malgeri has shown slides of the Italian paintings, sculpture, embroideries, laces, ironwork, etc., in the museum, with the object, as he put it, to help his people "to see and admire the works of their old country—lest they forget; to encourage them to visit the museum with their friends, both as an intellectual enjoyment and as a duty to their country; to awaken in them gratitude to the museum, which is the work, not of the government as in Italy, but of private persons, for their benefit; and to stimulate them by examples of their national handicrafts to good works of their own." He reported as a prompt result of his lectures the visit to the museum of three families from one quite distant suburb.

A more intensive form of work has been done with high school pupils. As usual, large numbers of history classes have come to supplement the record of events in their books by the sight of related objects. In such docent work, the connection with the ideals of citizenship is a matter of stress and direction. When the high school girl answers, "Yes, I would like my history, only there is too much killing," the docent replies, "Yes, that is why you come to the museum, to see the other side of history—the lives of the people, their homes, the things they made and used and cared for, to see Charles I as Van Dyck saw him, the beauty-loving monarch, not the king who started a civil war."

But much more important is the work, now three years old, with pupils from high schools who are given vocational drawing in the museum. By arrangements with the school committee, they are allowed to work in the museum five afternoons a week, and the work done is credited to them as a school course. The instruction in drawing—free-hand and mechanical and from casts—and in design in color is given by members of the museum school faculty; the pupils are chosen by competition from drawings done in the grade schools; and the nominal tuition has so far been met by gifts from friends interested in the plan. There are now three classes at work, and pupils who have had this training can, of course, enter the museum school with advanced standing and with a decided impetus toward future success. There are now four such pupils in the school. Some of the names make their own comment on the relation of this class to Americanization: Elfbaum, Kolb, Knudsen, Murphy, Zachrisson, Rudolph Bloom, Frederstefano, and the like. Their teachers feel greatly encouraged, not to say enthusiastic, about the results already accomplished; and one of them who has had a wide experience in teaching, reported that she had found

not only unequaled interest but unusual talent in this class, so that she prefers it to all her other work. Probably many of these pupils will take up commercial design because of its quick financial returns, and as their numbers increase, we may hope to see their mark upon our every-day surroundings. Already one of the boys has won a hundred-dollar prize in a competition opened to high school pupils for a poster for a National Electric Exhibition.

Again, both summer and winter, we have had our stories for children from city playground, settlement, or school. The summer work is, perhaps, mainly significant because of numbers—six thousand eight hundred and thirty-six having come to us last summer—but some of the stories were chosen with a patriotic end in view. This winter the subject of the stories has been definitely America and citizenship. Their plan and scope were partly due to the stimulus given by the new civic work of the Woman's Education Association of Boston, and partly due to one of our most faithful boys. "I like best stories about America," he said.

Within the limitations set by the museum collections, a series was planned called "The Long Journey to America: From Old Homes to New;" and from the first story, "The Age when Dreams Came True," the story of Columbus, we followed the different nations of settlers—Spanish, Dutch, French, English, Syrian, Italian, and Japanese—coming with each one from the setting and atmosphere of his old home and feeling the lure and effects of the new one. In most cases this has meant that the museum material has been used as background and illustration rather than as subject-matter; as, for example, in the story of Pizarro, "From Spanish Towns to the Temple of the Sun," when Spanish paintings and the museum's Peruvian embroideries and pottery gave the setting.

When two of the most constant attendants among the boys were asked which story they liked best, one replied, "The earlier ones, the stories of Columbus, Pizarro, the Dutch, and Paul Revere, for they helped us in our history at school," and the other answered, "The Syrian Boy, for it showed what our education can mean to us." This story of the Syrian boy (Mr. Abraham Ribbany's autobiography retold and adapted to children) was an ideal story from the point of view of the storyteller, giving, as it did, the archaically meager but charming Syrian home life of the little fellow, the eager, restless mind of the boy, his longing for America and its opportunities, his struggles with difficulties here, his growing, ardent patriotism, and his determination to be not a Syrian living in America, but a true American.

Ex-president Eliot once made the suggestion that museum stories would be more vital if they could substitute for the hero of an ancient myth such a person as the winner of a Carnegie medal. And though the disadvantages and difficulties are apparent of an appropriate modern subject for a museum story, the advantage of some of the later stories of this series was equally apparent in their direct appeal and relation to the boy and girl of the audience.

Such methods of work with citizens, actual or to-be, gain their importance, of course, because always behind the ways of using it there stands the museum itself. A little Russian Jewess, tremendously impressed with a diamond-encrusted watch in our collection, asked anxiously, "How did it get here?" And when she was told that it was given to the museum by a lady, she responded instantly, "Did the lady owe the museum something?" To such a child, whose experience of life would turn even the museum into a vast pawn-shop, it was a satisfaction to describe the spirit and purpose of givers and lenders to a museum and the reasons for the making of such a collection. For in most of our cities our museums stand as an example, through their lenders, donors, and administrators, of unqualified generosity and public-mindedness—an example of true American spirit.

Miss Lotta A. Clark of the Boston Normal School then presented the following paper:

AMERICANIZATION THROUGH THE DRAMA WITH THE AID OF THE MUSEUM

During the year that has passed since we held our last meeting in Washington, we have come to realize as we have never before, perhaps, the full significance of being Americans. At that time we were trying hard to make the best Americans possible for America. Now we are trying with all our might to be the finest Americans that we can, to help the other citizens of the world to preserve freedom, to understand it, and not to abuse it when they have gained it. As we look off into the future we think of "the perfect man that is to be! By this alone a nation shall be judged. 'Show us your man!' land cries to land." When any land challenges us to show an American, let us show a man who demands "liberty and justice for all." To do that we must rear a race of men who stand for that ideal at home and abroad. From our native-born citizens, we expect nothing

less. From our foreign-born citizens, we may expect it just in so far as we have given them to understand and to believe in it.

This is not so easy a task as most of us suppose. A foreigner who has had all his clothing and valuables stolen from him at a public bath house cannot understand why he can get no redress because the bath was free! Such freedom is mockery to him! It has taken such a foreigner eight years to understand our freedom under law and to desire to become a citizen of this country. With the barrier of a strange language between him and his new surroundings, countless misunderstandings are inevitable. And right here we have learned our most valuable lesson of the past year—that is, that strange ideas should not be taught in a strange language; but that new ideas should be first learned in a familiar language.

The foreigner beyond school age has a herculean task when he undertakes to earn a living and to learn to speak, read, and write a strange language at the same time. It takes a number of years for even the most intelligent to do this, and in the meantime much has been lost of hope, of confidence, and of aspiration. Instead of this he should be encouraged to preserve the best there is in him and to find that we value it.

The strangers in the strange land appreciate nothing more than the feeling that they belong with the other people here. To help them feel this as much as possible, we worked during the past winter with groups of Syrians, Chinese, Greeks, Italians, and Poles. The Chinese gathering took place in the Old South Meeting House in Boston. Mr. Woon Young Chun of Shanghai gave an address in English in which he brought out in a remarkably appealing way the relations between China and America. The value of the occasion lay in the opportunity it afforded the young Americans to come into close contact with the wonderful ability and intelligence of the Chinese. Most of our young people had never had the slightest conception of this civilization, but that day they wore beautiful mandarin coats, sang Chinese songs, and enjoyed an exhibition of fine Chinese prints. Later they framed a piece of Chinese embroidery as a memento of the occasion, for their classroom at the Normal School.

The Greek gathering took place also in the Old South Meeting House. The audience was more than half Greek, and the addresses were given both in Greek and in English. The Greek myth, "Demeter and Persephone," had been dramatized, and was presented in English by Normal School Girls, and in Greek by Greek college

graduates, both young men and young women. Several departments of the Museum of Fine Arts had assisted in working it out. Costumes and implements were studied in the Greek vase department, and the help with the draping from the textile department was especially valuable. The English version of the play was given first and was very enjoyable, but when the same story was given in Greek by the Greeks, the contrast was almost startling. The actors felt it so deeply that we were all moved by its native charm and beauty. We all understood the story, although we did not understand each other's language. We were drawn together by the stirring appeal of the "earth-mother of all children." Mr. Temagenis, Greek consul-general of New England, said in his address that he had not attended a more significant meeting in his thirty years of official work in this country. There were other addresses in English and in Greek, and when, at the close, the Greek parents brought their children to express their thanks to us in English, we all felt that we had received quite as richly as we had given.

Besides the lecture gatherings, we have given plays based on incidents in American history and intended to teach our history to foreigners before they can understand our language. The plays were directed and financed by the Woman's Education Association. The first play was of Puritan times, and was called "The First Thanksgiving." The editor of the Syrian newspaper said of his fellow-countrymen who made up the audience, "You have taught them more than if you had given them twenty books to read." Another play, given by Polish people for a Polish audience, was based on incidents showing the struggle for American liberty—the evacuation of Boston, the signing of the Declaration of Independence, the making of the first American Flag, and Washington at Valley Forge receiving Pulaski, the Polish patriot who helped us in our Revolution.

These plays were given in English and while they did a great deal of good, we found that the plays given in the native tongue did infinitely more. This was especially true of the Columbus play, which was given in Italian. Not only did the scenes of genuine Italian life and color warm the hearts of us all, but here we had a rare opportunity to enjoy the dramatic, artistic, and musical talents of these gifted young foreigners, who can add so richly to our life here if they have the encouragement and opportunity to do so. Surely this country may be the gathering place of the gifts of many nations. I look forward to a time when museums will furnish a series of red-letter

days in our calendar. One will be a Greek day, when the building will be filled by natives and foreigners who will listen to talks in Greek and in English about the wonderful specimens of Greek art; when a Greek play will show the life and customs of the race in the perfection of detail. Another day will be Italian, another Japanese, another Egyptian, and so on until the dead past shall live for us again in all the beauty of art and harmony and our life shall be more and more abundant for the richness of its variety.

In discussing the preceding group of papers Mr. Kent recalled the pleasure and profit that had resulted from the first conference of museum instructors and showed how this informal organization had affiliated with the Association at the Washington meeting. After some further discussion the Association voted that a committee be appointed by the Council to consider the matter of closer cooperation in educational and other matters between the various types of museums represented in the Association. The Chair announced at a subsequent session that the Council had appointed Messrs. F. A. Whiting, H. W. Kent, and H. L. Madison to serve on this committee.

Dr. G. Clyde Fisher, assistant curator of the department of public education, American Museum of Natural History, discussed briefly the pedagogy of motion pictures and illustrated his remarks by showing portions of the moving picture film entitled "The Beginning of Life."

The formal papers of the morning session having been completed, the Association proceeded to discuss a number of matters of business as follows:

Mr. John Cotton Dana, director of the Newark Museum Association, stated that on the previous day he had submitted to the Council through the Secretary an amendment to the Constitution which he desired to have reported by the Council with or without recommendation, as is required by the Constitution before any amendment may be acted upon. Mr. Dana asked if the report of the Council on this amendment might be presented at this session. The Chair stated that the Council had authorized him to say that the communication had been received from Mr. Dana and was then under consideration, but that owing to the far-reaching importance of the proposed amendment the Council was not prepared to report upon it without further consideration.

The Association then proceeded to the election of officers. Since the terms of the President and the Vice-president continue until 1918, no election was held for these offices. The other officers of the Association were elected as follows:

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, S. C.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

Councilors, 1917-1920:

Roy W. Miner, Assistant Curator of Invertebrate Zoology, American Museum of Natural History, New York City.

Anna B. Gallup, Curator, Children's Museum, Brooklyn, N. Y.

The Association then adjourned for luncheon as guests of the American Museum of Natural History.

SESSION OF WEDNESDAY, MAY 23

Afternoon

The afternoon session was called to order at the American Museum of Natural History at 2.30 p.m. by President Howland.

In the absence of the authors, the papers by Mr. Warren K. Moorehead and Dr. Wallace W. Atwood were omitted.

Mr. L. Earle Rowe, director of the Rhode Island School of Design, presented the following paper:

MUSEUM ETHICS

For the past twenty-five years the museum world has been discussing the development of museum policy along two lines, the scholastic and the esthetic. Each has its adherents, and each offers advantages not available in the other. Gradually has developed a type of museum which seeks to adopt the esthetic without losing sight of the value of the scholastic point of view.

We have in our discussions considered as features of museum policy such points as the emphasis on usefulness, the development of every function, the willingness to be of service to everybody, the employment of business methods and system, the use of exhibitions, lectures, and publications, careful attention to cases, backgrounds, installation, labels, etc., and the proper care of the works of art with which we are entrusted.

This discussion of museum policy has been of distinct advantage. It has clarified the ideas of those responsible for the line of action, it has emphasized the need of proving the value of the work, and it has led to a greater interest on the part of an increasing public. On the other hand, there are certain features of the relation of museums to each other, and especially of the museum to dealers, its members, scholars, and to its staff, which come directly under the head of museum ethics. These have not as yet been discussed in detail. Is there not something to be said on this subject, or are we going to let our museums work out their own salvation, irrespective of others' experience? Perhaps there has been a hesitation in discussing the subject as being too intangible and too general for our meetings. This may be true, but if by a presentation of some of the points in question which come under the heading of museum ethics we may be led in our discussion to crystallize into definite form the results of our experiences, they will doubtless prove of distinct value.

The subject of ethics is not before us for discussion in its philosophical sense, but in one much more definite. Ethics in general has been defined as the "Science of conduct or duty" (Bascom). Usually the term is applied to that conduct or duty which is related to moral procedure. The museum profession throughout has been developed on such a high plane that, except in very rare cases, the element of moral procedure has not departed from the most desirable standard. But there are activities of museum and staff which do come before us for discussion, and which, perhaps remotely, do have a moral significance.

Up to the present time the art museums have done little in the direction of cooperation. Each has jealously guarded its possessions; each has developed its store or study rooms which care for material not on general exhibition, and has rarely been willing to consider the loan or gift of this material to less fortunate institutions. In the case of larger museums there has been a decided reluctance to consider requests for loans from other institutions. Also, the larger museums

have hesitated to ask the smaller museums for important works of art which are needed for special exhibitions, for fear that by doing so they might in turn be asked to make similar loans. There is much to be said on both sides of this problem. On the one hand, the institution is the custodian of works of art which cannot be duplicated, and there are the risks in transit of damage, fire, or theft. It must frankly be admitted that the more a work of art is handled, the more difficult it is to keep it in condition. But with agreement on this point, is there not a great deal of material quite beyond the reach of many a struggling museum, which is infrequently or never used in the larger museum and only takes valuable space? It does not reduce in any way the independence of the smaller museums to accept such loans, nor need it make them feel that they are feeders for the greater ones. The chief difficulty in the way of such cooperation lies in the fact that gifts are usually given with real or implied conditions, and the museums feel bound by them. This the institutions must overcome by concerted effort.

Other phases of the relations between the museums themselves also come within the limits of our subject. In the open auction room there may always be gentlemanly competition for the highly desirable work of art, but in the outside world there are courtesies which have been found highly desirable for general progress. For instance, there is the question of museums respecting the particular interests of others. If a smaller museum is particularly interested in the acquisition of some of the historical and artistic material created in its own vicinity, is it quite courteous for another to seek to acquire these objects at a time when it is known that the first museum is still interested? Such procedure is always possible when wealthy institutions bring to bear the pressure of their financial resources. This has little application to objects for sale at a distance from the place where they have a particular interest. It might prove of distinct advantage, both financial and otherwise, to advise other museums of opportunities for acquisition.

The chief place of museum ethics in the relations between similar institutions lies in allowing each to work out its own problems, unless assistance is asked; in respecting the fields of special interests; in advising each other of opportunities for purchases which may not be necessary for the larger collections; and especially in placing at the disposal of other institutions the advice of such experts as may be found in the staff. This does not mean constant demand on the

experts, but an occasional courtesy of this sort which will be widespread in its influence. We are but at the beginning of such cooperation, and the American Association of Museums can do much to encourage this relation.

In its relation to dealers and the auction room, the museum soon finds that a very definite line of procedure and conduct is most advisable. Unless a dealer is in a fair way to impose on a prospective buyer, the museum should not interfere. The reputable dealers, even if they do act on the principle that a "work of art is worth what you can get for it," rarely give occasion for interference. On the other hand, the relation between dealer and museum should be cordial, considerate, and most business-like. It is customary for the dealer to quote a special price to the museum. There is nothing objectionable in this. There is divided opinion, however, as to the advisability of an institution accepting gifts from dealers. Here it depends on the dealer. If the gift is made from real interest in the work and a desire to help, that is one thing; but if it is made in the Oriental sense, with a view to developing such obligation on the part of the museum as will further particular or general business interests, it is unwise to accept the gift.

There is likely to be a difference of opinion as to whether it is wise for museum officers to give names of prospective buyers to the dealers, or to take buyers to the dealers' galleries. The difficulty is to avoid the impression of a secret understanding between the museum and the dealer. Each case has to be decided on its merits and the circumstances should determine the course to be pursued. Unless closely watched, this procedure might easily work against the welfare of the institution and the confidence of the collector. It certainly is unwise to give the names of prospective buyers to any dealer who may visit the city or seek an introduction.

Let us take the relations between the museum and the connoisseur or collector. Simple museum policy calls for as intimate a friendship as possible, for from such sources come the best support and many of the finest gifts. On the ethical side the museum should always deal fairly with him, by recognizing that he is learning by experience, that his opinion is honest, that it is his money which is to be paid for the object under consideration, and that only by friendly advice can he be influenced or led. There is also the delicate question of whether advice should be offered without its being asked for, but generally speaking, it should be reserved for such a request from the collector.

As an instance where this relationship is desirable, let us assume that there is a possibility of a gift of certain works of art. The museum is wise which seeks to encourage such gifts without conditions, but is it just for us to accept a whole group of objects merely for the sake of one or two of decided importance? There are museums which never take collectors into their confidence by saying frankly, "So much can we show, the rest must go into our study series and store rooms, with small chance of their ever being shown." Unless this is followed, it is neither fair to the collector, just to his connoisseurship, nor wise in the long run for the museum; for other museums, less fortunate than the one immediately under consideration, would welcome and exhibit much or most of the material. I do not mean that we should ever depart from our ideal principles of a selective museum, but we should be fairer to ourselves, the collector, and other museums by stating the case clearly to the collector and perhaps recommending that his gift would be more acceptable elsewhere.

There is a grave question whether it is good policy to impose or accept fees for services rendered to connoisseurs or collectors. We grant that few institutions are so wealthy that every source of income is not desirable, but the institution can work more independently and honestly, and on a higher plane, when there is no remuneration in sight. This applies especially to advice regarding care and preservation of objects, and their authenticity. There is nothing to criticise in the practice of most museums of charging a small percentage as commission on sales made in its galleries. It is, however, not wise to emphasize the commercial side, and museums should encourage sales from exhibitions to hold the excellent works of art in the city and not for financial return. The more frank and open the museum staff, the greater is the confidence and loyalty of the collector.

In the opinion of many there are certain features of the relations of museums to director and staff which are of very great importance. The museum has presumably engaged the members of its staff because of knowledge or experience, and not for any social reason. If this is the case, then it is of the greatest importance that the museum should recognize this fact, should allow the staff to carry on its most effective work, and should hold that the members of the staff are working for its interests. Unfortunately all museums have not always held this view, with the result that the work of the museum for the time being has been seriously hampered. If there is community of interest, breadth of vision, and confidence in just treatment on both sides, the work will indeed advance most satisfactorily.

The most important person in a museum in many ways is its executive officer, the director. Called to fill a position of great trust, which demands executive ability, business acumen, great knowledge of his special subject, breadth of vision to appreciate all the interests of his museum, and a scholarship which commands respect, he finds that his road is not an easy one. Therefore there are certain features of museum conduct which directly apply to him. For example, under no condition should he personally accept fees for advice given, nor should he accept gifts or commissions for assisting friends or members of the museum. Especially should he avoid accepting favors or gifts from artists, dealers or commercial houses. In this way he is free to exercise independent judgment, and his advice is above reproach. Exception cannot be taken to his accepting remuneration for lectures outside of his museum, as these do not place him under any obligation, and are usually delivered in his free time. But if he is lecturing about the museum and collections under his charge no fee should be accepted. In this respect he should so judge his time and strength that his work for the museum will not suffer.

There is also a great question whether the director or any other staff officer of the museum should be a collector of such objects as the museum is acquiring. Generally speaking, the wisest course is to avoid being a collector. In this way there can be no question about the possibility of personal interest taking precedence over that of the museum. Proof might easily be offered which would show the wisdom of such a course. It might also be noted that if the director is not a collector, there will be less incentive for dealers, artists, or other interested parties to make gifts for ulterior motives.

Opportunity is sometimes presented for an officer of a museum to work for two places at once. While this is within the range of possibility, it may prove somewhat undesirable. No man can work for both institutions and give the same kind of service, for naturally he gives the museum where he is longest employed, or from which he receives the largest fee, the best of his knowledge and strength. If, for example, there comes an opportunity to secure a work of art, there is little question which museum will have first choice. The length of time that a second museum is willing to consider objects already discarded by the first depends upon the size and quality of its collection. The best way seems to be that suggested above, whereby the services of an expert staff are available for other museums, the first one always to be conversant with the arrangement, and no charge to be made to other galleries for the service.

The relations between director and staff also deserve close study. Admitting differences in circumstances, it has been shown that where mutual respect exists, with full appreciation of the organization, and a unity of purpose in the furtherance of the general welfare of the museum, there is no need for the friction which sometimes exists.

Much more might be said, but perhaps enough has been presented in this paper to open up lines of discussion of great interest to every one present. By our differences or agreement of opinion we might so crystallize some of the features of museum ethics that they will assist us in our own work and benefit other institutions or individuals who may meet some of these problems for the first time. Then will we discover that a constant employment of strict museum ethics is also good policy.

Dr. A. R. Crook, curator of the Illinois State Museum, presented the following paper:

MODERN MUSEUM RULES OF PROCEDURE

People engaging in many games, sports, professions, and gatherings have their books of rules or their compendiums of information to which they may turn for authoritative statements and for fundamental principles. The card-player has his Hoyle; the devotee of the manly art of self-defence his Marquis of Queensbury; the infantryman his General Leonard Wood's Manual of 1911; the young lawyer his Blackstone; the old doctor his Gray's Anatomy; the minister his Discipline; and deliberative bodies their Roberts' Rules of Order. But the museum man has no *vade mecum*, no authoritative short statement of the best rules of procedure in the varied activities which are called for in the miniature world over which he presides.

This lack of a guide or of clear-cut rules does not come from a dearth of material, since one who has the time may find answers and suggestive rules by consulting the *Proceedings* of our Association, the *Museumskunde*, the *British Museums Journal*, and numerous essays and books, some of which have just made their appearance. Or he may consult the older members of this body and obtain valuable suggestions as to how to proceed in almost any contingency. But this information is scattered and fragmentary. What is needed is a compact statement of the best rules of procedure in the multiplicity of affairs which confront the museum man. Such a statement would

prove a boon to men just starting a museum, to men who are taking up new duties in old museums, and to men who have so long been in the same position that they are in danger of mental ossification.

The well-informed know that a one-eyed, one-armed, one-legged man is not the most ideal museum curator, even though he may be a fitting exhibit. The well-informed know that the museum thrives best under the professional museum man, just as the library does in the hands of a professional librarian, the law in the hands of the professional lawyer, and so on. No profession is more exacting than that which occupies the trained museum curator.

How often do we meet friends, trustees, and strangers, who, pursuing their mouths and looking wise, offer some platitude as to the way in which a museum should be conducted. Their suggestions are often wrong, sometimes inane, sometimes the A B C's of the profession. If we could refer them to a simple statement of museum rules, it would help them and the institution.

Is there not at this time a demand for a compact statement of the more desirable rules of procedure in all lines of museum activity? Such a statement could not be made with Draconian finality, but could embody the judicious conclusions arrived at by the best men in the profession. Such a statement would contain chapters on building, furniture, cases, labels, exhibits, gifts, treatment of the public, treatment of employees, and financial budgets.

The chapter on building would contain diagrams and statements of most favorable dimensions for museum rooms for institutions large and small; the most favorable proportions for door space, window space, attic and cellar space; the results of the studies in lighting not only at Cleveland, Albany, and Washington, but also at other places. Then there would be notes on janitors' quarters, toilet arrangements, fire-fighting apparatus, and other similar things, which should be so positively stated as to be easily comprehended by those about to construct museum buildings, as we are now at Springfield, where men who may have never been in a museum may decide these questions.

The chapter on cases, while pointing out that there is no "best case" any more than there is a best style of architecture for a home or for a public building, could give the results derived by the admirable studies of Madison, Whitlock, Merrill, Lucas, Farrington, and others. Diagrams and directions would "from many an error free us and many a foolish notion."

The chapter on labels would be an important one, since even here there is opportunity for the display of good judgment and good taste. Well-defined rules, many of which have failed to penetrate the consciousness of even museum men, could be laid down much to the advantage of our institutions.

The chapter on the quality, quantity, and character of the exhibits themselves—the center of the picture around which all other things are simply the frame—would, of course, constitute the most important part of the series. Among other things would be considered the reception of gifts. A wise statement, authoritatively made, might prevent the tying up of valuable collections in such a manner as to render them well-nigh useless. What conditions should be allowable in receiving a gift? Staring us in the face at Springfield is the gift of a collection said to be worth \$100,000. In various parts of the country other generous donors are making or planning gifts. What limitations or conditions are reasonable? A short statement might be of great assistance to all parties concerned. Several years ago, one of our western colleges refused the million dollars proffered by a philanthropist, since the authorities did not approve of the would-be donor's character. The college has never, as far as I am aware, been famous for anything else.

A short chapter might well be devoted to the treatment accorded to the museum visitor. Few of us have had the experience related by one of the speakers yesterday, where the visitors were asked what they wanted when they applied at the partly open door of the museum and were told that if they had twenty-five cents they could come in. Museum authorities are becoming even decent toward the public, supplying guide-books, docents, courteous attendants, and many other things not dreamed of in the early days. Much remains, however, to be done, even in our best institutions, with their marvelous exhibits, cases, and surroundings. There are numerous little things which would add greatly to the comfort of visitors.

The chapter on the question of personnel would be a most helpful one. The suggestions along this line made by Gilman, Ward, Holland, Lucas, and others, when put in available form, might save tender feelings and, more important still, misdirected efforts. That museum is most prosperous whose employees are the happiest and most wisely directed.

Finally, the book of rules might end with a clear-cut financial statement, with sample budgets showing expenditures of typical

institutions, large and small. What should be the relative proportion between initial and annual expenditures, between the amounts spent for raw materials, for finished products, for employment, for printing, tools, cases, literature, etc.? Examples should be given of the cost of groups and of exhibits of certain grades. Without doubt the budget of many an institution would often be more satisfactory if the custom at successful institutions were better known.

These and other things would form a book of rules of great value.

The Committee on Resolutions, consisting of Messrs. B. I. Gilman, H. E. Sargent, and W. C. Mills, submitted the following resolution, which was unanimously adopted:

Resolved, That the hearty thanks of the American Association of Museums be tendered to the American Museum of Natural History and to the Metropolitan Museum of Art for their liberal and effective provision for the business and pleasure of the twelfth annual meeting, and that the appreciation of the Association be tendered to the Brooklyn Museums, the Woman's Auxiliary of the Children's Museum in Brooklyn, the New York Aquarium, the New York Botanical Garden, the New York Zoological Park, the Staten Island Association of Arts and Sciences, and the many other institutions and individuals who have extended their hospitality to the Association on this occasion.

The selection of a meeting place for 1918 was then considered. Invitations were presented to the Association to meet in Springfield, Mass., by the Springfield Art Museum and the Museum of Natural History, and to meet in Albany, N. Y., by the New York State Museum. The Association voted to refer these invitations to the Council with power to act. The Council subsequently announced that it had selected Springfield, Mass., for the meeting to be held in May, 1918.

There being no further business the Chair declared the convention of 1917 adjourned.

The three days following adjournment of the formal sessions were spent in visiting the museums in New York and vicinity.

On Thursday, May 24, an inspection of the Children's Museum of the Brooklyn Institute of Arts and Sciences was followed by a

luncheon tendered by the Woman's Auxiliary of the Children's Museum, and the afternoon was occupied with a visit to the Central Museum of the Brooklyn Institute.

Friday, May 25, the Association visited the New York Botanical Garden, after which it was entertained at luncheon. The afternoon was occupied with an inspection of the Zoological Park.

On Saturday, May 26, some of the members of the Association visited the Public Museum of the Staten Island Association of Arts and Sciences. Invitations were also extended to visit the American Numismatic Society, the Newark Museum, and the New Jersey State Museum at Trenton.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, a Vice-president, a Secretary and a Treasurer, and six other persons designated as Councilors, and these ten shall constitute the Council.

The President and the Vice-president shall each serve two years, and during the succeeding two years shall be ineligible for re-election to the same office. The Councilors shall each serve three years, and for one year thereafter shall be ineligible for re-election to the same office. Two Councilors shall retire annually and two Councilors shall be elected annually, except that, in the year of a presidential election, the retiring president shall become a Councilor and the Association shall elect one other Councilor.

Upon recommendation of the Council the Association may elect an Honorary President to hold office for the term of two years. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums dis-

cussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

RULINGS OF THE COUNCIL

The Secretary is authorized and directed to use his discretion in editing the *Proceedings* and in condensing discussions of business and of papers.

Members two years in arrears for dues are required to be dropped from the roll.

SUMMARY OF TREASURER'S REPORT FOR THE
YEAR ENDED MAY 15, 1917

Balance on hand, May 15, 1916.....	\$497.42
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RECEIPTS

Sustaining memberships.....	\$585.00
Life memberships.....	60.00
Active memberships.....	767.92
Associate memberships.....	15.00
Temporary memberships.....	11.00
Sale of publications, reprints, etc.....	104.45

Total receipts.....	1543.37
	\$2,040.79

EXPENDITURES

Office expenses:	
Salaries.....	\$630.00
Postage, printing, and petty cash.....	96.40
Stationery and supplies.....	50.54
Convention expenses:	
Printing, badges, etc.....	38.76
Traveling expenses.....	128.10
Reporting proceedings.....	81.10
Publication of <i>Proceedings</i> :	
Printing.....	533.65
Freight and carting.....	6.24
Postage.....	23.15
Protested check.....	4.00

Total expenditures.....	1,591.94
	\$448.85

Balance on hand May 15, 1917.....	
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MEMBERS OF THE AMERICAN ASSOCIATION OF MUSEUMS¹

PATRONS

Huntington, Archer M., 15 West 81st Street, New York City.

SUSTAINING MEMBERS

Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
 Alabama Museum of Natural History, University, Ala.
 *American Museum of Natural History, New York City.
 American Numismatic Society, New York City.
 Army Medical Museum, Washington, D. C.
 Arnold Arboretum, Boston, Mass.
 Arnot Art Gallery, Elmira, N. Y.
 *Art Association of Indianapolis (John Herron Art Institute), Indianapolis, Ind.
 *The Art Institute of Chicago, Chicago, Ill.
 Battle Creek Public School Museum, Battle Creek, Mich.
 Bernice P. Bishop Museum, Honolulu, T. H.
 Boston Society of Natural History, Boston, Mass.
 *The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
 Buffalo Historical Society, Buffalo, N. Y.
 Buffalo Society of Natural Sciences, Buffalo, N. Y.
 California Academy of Sciences, San Francisco, Cal.
 *Carnegie Museum, Department of the Carnegie Institute, Pittsburgh, Pa.
 Chamberlain Memorial Museum, Three Oaks, Mich.
 *The Charleston Museum, Charleston, S. C.
 Chicago Historical Society, Chicago, Ill.
 Cincinnati Museum Association, Cincinnati, Ohio.
 Cleveland Museum of Art, Cleveland, Ohio.
 Colorado Museum of Natural History, Denver, Col.
 *The Corcoran Gallery of Art, Washington, D. C.
 Davenport Academy of Sciences, Davenport, Iowa.
 Department of Archæology, Phillips Academy, Andover, Mass.
 *Deseret Museum, Salt Lake City, Utah.
 Educational Museum, St. Louis Public Schools, St. Louis, Mo.
 The Essex Institute, Salem, Mass.
 *The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
 *Field Museum of Natural History, Chicago, Ill.
 Fogg Art Museum, Harvard University, Cambridge, Mass.
 Geological Survey of Canada, Ottawa, Ontario, Canada.
 Hispanic Society of America, New York City.
 Illinois State Museum, Springfield, Ill.
 Joseph Moore Museum, Earlham College, Earlham, Ind.
 Mattatuck Historical Society, Waterbury, Conn.
 *Metropolitan Museum of Art, New York City.
 Minneapolis Institute of Arts, Minneapolis, Minn.

¹ The asterisk (*) denotes a Charter Member.

- *Museum of Fine Arts, Boston, Mass.
- Museum of Fine Arts, Indiana University, Bloomington, Ind.
- Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
- New Jersey State Museum, Trenton, N. J.
- *New York Botanical Garden, Bronx Park, New York City.
- *New York State Museum, Albany, N. Y.
- Newark Museum Association, Newark, N. J.
- Northwestern University, Museum of the College of Liberal Arts, Evanston, Ill.
- Park Museum, Providence, R. I.
- Peabody Museum, Salem, Mass.
- Peabody Museum of Natural History, Yale University, New Haven, Conn.
- *Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia, Pa.
- Pennsylvania State Museum, Harrisburg, Pa.
- The Philadelphia Museums, 34th St., below Spruce, Philadelphia, Pa.
- Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.
- *Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Randall Museum, Warren Academy of Sciences, Warren, Pa.
- Rhode Island School of Design, Providence, R. I.
- Smithsonian Institution, Washington, D. C.
- Springfield Art Museum, Springfield, Mass.
- Springfield Museum of Natural History, Springfield, Mass.
- The Thayer Museum, Lancaster, Mass.
- Toledo Museum of Art, Toledo, Ohio.
- *University Museum, Department of Archæology, University of Pennsylvania, Philadelphia, Pa.
- Wadsworth Atheneum, Hartford, Conn.
- Washington State Museum, Seattle, Wash.
- Worcester Art Museum, Worcester, Mass.

LIFE MEMBERS

- Clowes, Herbert, Landscape Modeler, Public Museum of the City of Milwaukee, Milwaukee, Wisconsin.
- Crook, A. R., Curator, Illinois State Museum of Natural History, Springfield, Illinois.
- Graves, F. P., Graves Private Museum, Doe Run, Mo.
- *Henshaw, Samuel, Director, Museum of Comparative Zoology, Harvard University, Cambridge, Mass.
- *Holland, W. J., Director, Department of the Museum, Carnegie Institute, Pittsburgh, Pa.
- Matthew, W. D., Curator of Vertebrate Paleontology, American Museum of Natural History, New York City.
- Osborn, Henry Fairfield, President, American Museum of Natural History, New York City.
- Parrish, Samuel L., Southampton Art Museum, Southampton, Long Island, N. Y.
- *Talmage, James E., Director, Deseret Museum, Salt Lake City, Utah.
- Thayer, John E., Director, Thayer Museum, Lancaster, Mass.

ACTIVE MEMBERS

- Abbot, Edith R., Instructor, Metropolitan Museum of Art, New York City.
- *Adams, Charles C., New York State College of Forestry, Syracuse, N. Y.
- Adickes, Thomas W., Assistant Curator, North Carolina State Museum, Raleigh, North Carolina.
- Agostini, Serafino, Preparator, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.
- Aitkin, Helen J., Assistant Curator, Division of Conchology, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
- *Akeley, C. E., Taxidermist, American Museum of Natural History, New York City.
- Albrecht, Clarence J., Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.
- *Allen, Joel A., Curator of Mammalogy and Ornithology, American Museum of Natural History, New York City.
- Alliot, Hector, Director, The Southwest Museum, Los Angeles, Cal.
- Ami, Henry M., Geological Survey, Department of Mines, Ottawa, Ontario, Canada.
- Atkinson, D. A., Custodian of Reptiles, Carnegie Museum, Pittsburgh, Pa.
- Atwood, W. W., Director, Chicago Academy of Sciences; Trustee, Children's Museum of Boston. Address: Harvard University, Cambridge, Mass.
- Austin, Thomas L., Curator, Erie Public Museum, Erie, Pa.
- Bailey, Alfred M., Curator, Department of Birds and Mammals, Louisiana State Museum, New Orleans, La.
- Bailey, B. H., Curator, Coe College Museum, Cedar Rapids, Iowa.¹
- *Baker, Frank C., Zoological Investigator, New York State College of Forestry, Syracuse, N. Y.
- Bakewell, Euphemia, Docent, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- Ballard, Harlan H., Curator, Berkshire Atheneum and Museum, Pittsfield, Mass.
- *Barbour, Erwin Hinckley, Curator, State Museum, Lincoln, Neb.
- Barbour, Thomas, Associate Curator of Reptiles, Museum of Comparative Zoology, Cambridge, Mass.
- Barrett, S. A., Curator of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Bassler, R. S., Curator of Paleontology, United States National Museum, Washington, D. C.
- *Beatty, John W., Director, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.
- *Bennett, Bessie, Curator of Decorative Arts and Assistant to the Director, The Art Institute of Chicago, Chicago, Ill.
- Bethel, Ellsworth, President, Colorado Academy of Sciences, Denver, Col.
- Blackman, E. E., Curator, Nebraska State Historical Society, Lincoln, Neb.
- Bliss, Chester I., Assistant Curator, High School Museum, Sandusky, Ohio.
- Block, Maurice, Assistant, Art Institute of Chicago, Chicago, Ill.

¹ Died June 22, 1917.

- Bolton, Herbert, Director, Bristol Museum and Art Gallery, Bristol, England.
- Boyle, C. W., Curator, Isaac Delgado Museum of Art, New Orleans, La.
- Bragg, Laura M., Curator of Books and Public Instruction, The Charleston Museum, Charleston, S. C.
- Brah, Bernard H., Assistant, Department of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Breck, Joseph, Director, Minneapolis Institute of Arts, Minneapolis, Minn.
- *Brigham, William T., Director, Bernice P. Bishop Museum, Honolulu, T. H.
- Brimley, Herbert H., Curator, North Carolina State Museum, Raleigh, N. C.
- *Britton, N. L., Director-in-chief, New York Botanical Garden, Bronx Park, New York City.
- Brockett, Paul, Custodian, Division of Graphic Arts, United States National Museum, Washington, D. C.
- Brooks, Neil C., Curator, Museum of European Culture, University of Illinois, Urbana, Ill.
- Brown, Charles E., Chief, State Historical Museum of Wisconsin, Madison, Wisconsin.
- *Bryan, William Alanson, Professor of Zoology, College of Hawaii, Box 38, Honolulu, T. H.
- Bryant, William L., Custodian of Museum, Buffalo Society of Natural Sciences, Buffalo, N. Y.
- Buck, Solon J., Superintendent, Minnesota Historical Society, St. Paul, Minn.
- *Bumpus, Hermon C., President, Tufts College, Tufts College, Mass.
- Burroughs, Clyde H., Secretary and Director, Detroit Museum of Art, Detroit, Mich.
- Butler, Edward H., Jr., Board of Managers, Buffalo Society of Natural Sciences. Address: 672 Delaware Avenue, Buffalo, N. Y.
- Carpenter, Newton H., Business Manager and Director pro tem, The Art Institute of Chicago, Chicago, Ill.
- Carrington, FitzRoy, Curator of Prints, Museum of Fine Arts, Boston, Mass.
- Chapman, Frank M., Curator of Ornithology, American Museum of Natural History, New York City.
- Clark, James L., Special Taxidermist, American Museum of Natural History, New York City.
- Clark, Lotta A., Boston Normal School, Boston, Mass.
- Clarke, John M., Director, New York State Museum, Albany, N. Y.
- Connolly, Louise, Educational Adviser, State Museum, Trenton, N. J.
- Cowan, Robert E., Historian, 867 Treat Ave., San Francisco, Cal.
- Crocker, Anna B., Curator, Portland Art Association, Portland, Ore.
- Crouthers, Edith M., Assistant in Lending Collections, Newark Museum Association, Newark, N. J.
- Cummings, Byron, Director of the Museum, University of Arizona, Tucson, Ariz.
- Cummings, Carlos E., Secretary, Buffalo Society of Natural Sciences, Buffalo, New York.
- Cushman, Joseph A., Assistant Curator, Boston Society of Natural History, Boston, Mass.
- Daggett, Frank S., Director, Museum of History, Science and Art, Los Angeles, Cal.

Dana, John Cotton, Secretary and Director, Newark Museum Association, Newark, N. J.

Dawson, William Leon, Director, Museum of Comparative Oology, Santa Barbara, Cal.

*Dean, Bashford, Curator Emeritus of Fishes and Reptiles, American Museum of Natural History; Curator of Arms and Armor, Metropolitan Museum of Art, New York City.

*de Forest, Robert W., President, Metropolitan Museum of Art, New York City.

deVeer, Mrs. D. W., Assistant Curator, Oakland Public Museum, Oakland, Cal.

Dickerson, Mary C., Curator of Woods and Forestry, American Museum of Natural History, New York City.

Dill, Homer R., Director of Vertebrate Museum, State University of Iowa, Iowa City, Iowa.

Dodge, Charles Wright, Curator of Zoological Museum, University of Rochester, Rochester, New York.

Doelle, John A., Superintendent, Houghton Public Schools, Houghton, Mich.

*Dow, George Francis, Secretary and Curator, The Essex Institute, Salem, Mass.

Driscoll, Lucy C., Instructor in History of Art, University of Chicago, Chicago, Ill.

*Eigenmann, Carl H., Curator of Ichthyology, Carnegie Museum, Pittsburgh, Pennsylvania.

Elliott, Huger, Supervisor of Educational Work, Museum of Fine Arts, Boston, Mass.

Evermann, Barton W., Director, California Academy of Sciences, San Francisco, Cal.

Fairbanks, Arthur, Director, Museum of Fine Arts, Boston, Mass.

Farrington, Agnes E., Curator, State Museum (Washington's Headquarters), Newburgh, N. Y.

*Farrington, Oliver C., Curator of Geology, Field Museum of Natural History, Chicago, Ill.

Fenneman, N. M., Professor of Geology, University of Cincinnati, Cincinnati, Ohio.

Fischer, Eugene J., Osteologist and Preparator, Museum of History, Science and Art, Los Angeles, Cal.

Fisher, G. Clyde, Assistant Curator, Department of Public Education, American Museum of Natural History, New York City.

Fisher, William L., Assistant Curator, Philadelphia Museums, Philadelphia, Pa.

Flint, Sarah G., Assistant in charge of Textiles, Museum of Fine Arts, Boston, Mass.

Forbes, Edward W., Director, Fogg Art Museum, Harvard University, Cambridge, Mass.

Franklin, Dwight, Preparator of Ethnological Groups, 1947 Broadway, New York City.

Gadsden, Philip H., President, The Charleston Museum, Charleston, S. C.

Gaige, Mrs. Helen T. Administrative Assistant, Museum of Zoology, University of Michigan, Ann Arbor, Mich.

*Gallup, Anna Billings, Curator, Children's Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.

- Gaudette, Marie E., Assistant to Curator, Park Museum, Providence, R. I.
- *Gest, J. H., Director, Cincinnati Museum, Cincinnati, Ohio.
- Gibson, Katherine, In charge Educational Work, Cleveland Museum of Art, Cleveland, Ohio.
- Gifford, E. W., Associate Curator, Museum of Anthropology, University of California, San Francisco, Cal.
- *Gilman, Benj. Ives, Secretary, Museum of Fine Arts, Boston, Mass.
- Glenk, Robert, Director, Louisiana State Museum, New Orleans, La.
- Goodale, George Lincoln, Honorary Curator, Botanical Museum, Harvard University, Cambridge, Mass.
- *Gordon, G. B., Director, University Museum, University of Pennsylvania, Philadelphia, Pa.
- Grant, U. S., Curator, Museum of the College of Liberal Arts, Northwestern University, Evanston, Ill.
- Gray, Morris, President, Museum of Fine Arts, Boston, Mass.
- *Greenman, Milton J., Director, The Wistar Institute of Anatomy, Philadelphia, Pennsylvania.
- *Griffin, Delia Isabel, Director, Children's Museum of Boston, Olmsted Park, Jamaica Plain, Mass.
- Grinnell, Joseph, Director, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
- Hall, F. S., Curator, State Museum, University of Washington, Seattle, Wash.
- *Henderson, Junius, Curator of the Museum, University of Colorado, Boulder, Colorado.
- Henderson, R. W., Assistant, Museum of Natural History, University of Iowa, Iowa City, Iowa.
- Herm, Charles F., Assistant, Department of Physiology, American Museum of Natural History, New York City.
- Hewitt, Eleanor G., Director, Museum of the Arts of Decoration, Cooper Union, New York City.
- *Hollick, Arthur, Director, Public Museum, Staten Island Association of Arts and Sciences, New Brighton, N. Y.
- Holmes, William H., Curator, National Gallery of Art; Head Curator of Anthropology, United States National Museum, Washington, D. C.
- Hood, Ida Richardson, Assistant Librarian, American Museum of Natural History, New York City.
- *Hornaday, William T., Director, New York Zoological Park, New York City.
- Hough, Walter, Curator of Ethnology, United States National Museum, Washington, D. C.
- *Houston, S. F., Trustee, University of Pennsylvania, Philadelphia, Pa.
- *Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology, American Museum of Natural History, New York City.
- Howe, Marshall A., Curator of the Museums, New York Botanical Garden, New York City.
- Howe, Winifred E., General Assistant, Metropolitan Museum of Art, New York City.
- Howland, Henry R., Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

- Hoyle, William Evans, Director, National Museum of Wales, City Hall, Cardiff, Wales.
- Hughes, D. C., Assistant, Section of Archeology and Ethnology, Carnegie Museum, Pittsburgh, Pa.
- Hutchinson, Charles L., President, The Art Institute of Chicago, Chicago, Ill.
- Jackson, Robert T., Assistant Curator, in charge of Paleontological Collections, Boston Society of Natural History, Boston, Mass.
- Jacobs, Mrs. Ophelia, Curator, Daniel B. Dyer Museum, Kansas City, Mo.
- *Jenkins, Lawrence W., Assistant Director, Peabody Museum, Salem, Mass.
- Jennings, Otto E., Curator of Botany, Carnegie Museum, Pittsburgh, Pa.
- *Johnson, Charles W., Curator, Boston Society of Natural History, Boston, Mass.
- Johnson, Mrs. Grace Pettis, Curator, Springfield Museum of Natural History, Springfield, Mass.
- Johnston, R. A. A., Mineralogist and Curator, Geological Survey, Ottawa, Ontario, Canada.
- Jones, Lynds, Curator, Zoological Museum, Oberlin College, Oberlin, Ohio.
- *Kahl, Paul Hugo Isidor, Custodian, Section of Entomology, Carnegie Museum, Pittsburgh, Pa.
- Katzenberger, George A., Curator, Museum of Carnegie Library, Greenville, Ohio.
- Kendall, Alice W., Assistant, Newark Museum Association, Newark, N. J.
- Kent, Henry W., Secretary, Metropolitan Museum of Art, New York City.
- *Kermode, Francis, Curator, Provincial Museum, Victoria, British Columbia, Canada.
- Kinnear, N. B., Bombay Natural History Society, Bombay, India.
- Kissell, Mary Lois, Formerly with American Museum of Natural History. Address: 423 W. 120th Street, New York City.
- Knotts, Mrs. Minnie P., Secretary, State Historical Society, Lincoln, Neb.
- Koch, Gertrude E., Assistant in charge of Lending Collections, Newark Museum Association, Newark, N. J.
- Kollock, Charles W., Secretary, The Charleston Museum, Charleston, S. C.
- Kroeber, Alfred L., Curator, Museum of Anthropology, University of California, San Francisco, Cal.
- *Kunz, George F., Honorary Curator of Gems, American Museum of Natural History, New York City.
- *Lamb, Daniel Smith, Pathologist, Army Medical Museum, Washington, D. C.
- Lamson-Scribner, Frank, Expert on Exhibits, United States Department of Agriculture, Washington, D. C.
- Leach, Hazel M., Instructor, Worcester Art Museum, Worcester, Mass.
- Lewton, Frederick L., Curator, Division of Textiles, United States National Museum, Washington D. C.
- Libbey, William, Director, E. M. Museum, Princeton, N. J.
- Lindberg, Thure H., Snead & Company Iron Works, Jersey City, N. J.
- Link, G. A., Jr., Assistant Preparator, Taxidermic Laboratory, Carnegie Museum, Pittsburgh, Pa.
- *Lucas, Frederic A., Director, American Museum of Natural History, New York City.
- Lucas, Jannette May, Assistant in Library, American Museum of Natural History, New York City.

- *MacCurdy, George Grant, Curator, Section of Anthropology, Yale University Museum, New Haven, Conn.
- MacLean, J. Arthur, Curator, Cleveland Museum of Art, Cleveland, Ohio.
- MacLean, W. W., Superintendent of Buildings and Grounds, Museum of Fine Arts, Boston, Mass.
- McIlvaine, Caroline M., Librarian and Curator, Chicago Historical Society, Chicago, Ill.
- Macomber, Frank G., Honorary Curator, Department of Western Art, Museum of Fine Arts, Boston, Mass.
- Madison, H. L., Curator, Park Museum, Providence, R. I.
- Magoon, Eva W., Assistant to the Curator, Park Museum, Providence, R. I.
- Mengel, Levi W., Director, Reading Public Museum, Reading, Pa.
- *Mills, William C., Curator and Librarian, Ohio State Archæological and Historical Society, Ohio State University, Columbus, Ohio.
- Millsbaugh, Charles F., Curator of Botany, Field Museum of Natural History, Chicago, Ill.
- *Miner, Roy W., Assistant Curator of Invertebrate Zoology, American Museum of Natural History, New York City.
- Moore, Barrington, Associate Curator of Woods and Forestry, American Museum of Natural History, New York City.
- Moorehead, Warren K., Curator, Department of Archæology, Phillips Academy, Andover, Mass.
- Morgan, Mrs. Florence deZ., Museum Assistant, San Diego Museum, San Diego, Cal.
- Morris, Frances, Assistant Curator, Department of Decorative Arts, Metropolitan Museum of Art, New York City.
- Morris, Mrs. Mary B., Docent, The Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.
- Morse, Albert P., Curator, Zoological Museum, Wellesley College, Wellesley, Mass.; Curator of Natural History, Peabody Museum, Salem, Mass.
- *Morse, Edward S., Director, Peabody Museum, Salem, Mass.
- Nichols, Henry W., Assistant Curator of Geology, Field Museum of Natural History, Chicago, Ill.
- Oliver, Maude I. G., Editor of the *Bulletin*, The Art Institute of Chicago, Chicago, Ill.
- Ortmann, Arnold E., Curator of Invertebrate Zoology, Carnegie Museum, Pittsburgh, Pa.
- Osgood, Wilfred H., Assistant Curator of Mammalogy and Ornithology, Field Museum of Natural History, Chicago, Ill.
- Owen, Thomas M., Director, Department of Archives and History, Montgomery, Alabama.
- Paarmann, J. H., Curator, Davenport Academy of Sciences, Davenport, Iowa.
- Page, Edward C., In charge, Museum of History, State Normal School, DeKalb, Ill.
- Paull, Florence V., Assistant in charge of Western Art, Museum of Fine Arts, Boston, Mass.
- Peabody, Charles, Curator of European Archeology, Peabody Museum, Harvard University, Cambridge, Mass.

- Peaslee, Leon D., Curator of Education, Public Museum of the City of Milwaukee, Milwaukee, Wis.
- Perine, Clara N., Assistant to Director, The Wistar Institute of Anatomy, Philadelphia, Pa.
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Hispanic Society of America (*sustaining*):

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Metropolitan Museum of Art (*sustaining*):

Abbot, Edith R., Instructor (*active*).

Baker, Helen J., Assistant in Library (*associate*).

Clifford, William, Librarian (*associate*).

Dean, Bashford, Curator of Arms and Armor (*active*).

de Forest, Robert W., President (*active*).

Felton, Alice L., Assistant in charge of Photographs (*associate*).

Howe, Winifred E., Assistant (*active*).

Kent, Henry W., Secretary (*active*).

Morris, Frances, Assistant Curator, Department of Decorative Arts
(*active*).

Robinson, Edward, Director (*active*).

Vaughan, Mrs. Agnes L., Instructor (*active*).

Wallace, Lucy E., Assistant Librarian (*associate*).

Museum of the Arts of Decoration, Cooper Union (*non-member*):

Hewitt, Eleanor G., Director (*active*).

New York Aquarium (*non-member*):

Townsend, Charles H., Director (*active*).

New York Botanical Garden (*sustaining*):

Britton, N. L., Director-in-chief (*active*).

Howe, Marshall A., Curator of Museums (*active*).

Small, John K., Head Curator of Museums and Herbarium (*active*).

New York Zoological Park (*non-member*):

Hornaday, William T., Director (*active*).

Russell Sage Foundation, Department of Surveys and Exhibits (*non-member*):

Routzahn, E. G., Associate Director (*active*).

Unattached:

Franklin, Dwight (*active*).

Kissell, Mary Lois (*active*).

Meagher, Marion T., Painter and Sculptor (*associate*).

Sampson, Harold R. (*associate*).

Wyer, Raymond (*active*).

NEWBURGH:

State Museum (Washington's Headquarters) (*non-member*):

Farrington, Agnes E., Curator (*active*).

ROCHESTER:

Municipal Museum (*non-member*):

Putnam, Edward D., Curator (*active*).

University of Rochester (*non-member*):

Dodge, Charles Wright, Curator of Zoological Museum (*active*).

Ward's Natural Science Establishment (*non-member*):

Ward, F. Hawley, Secretary (*active*).

SOUTHAMPTON:

Southampton Art Museum (*non-member*):

Parrish, Samuel L. (*life*).

SYRACUSE:

New York State College of Forestry (*non-member*):

Adams, Charles C. (*active*).

Baker, Frank C., Zoological Investigator (*active*).

Syracuse Museum of Fine Arts (*non-member*):

Baxter, Mrs. Blanche W., Docent (*associate*).

NORTH CAROLINA

RALEIGH:

North Carolina State Museum (*non-member*):

Adickes, Thomas W., Assistant Curator (*active*).

Brimley, Herbert H., Curator (*active*).

NORTH DAKOTA

FARGO:

North Dakota Art Association (*non-member*):

Rindlaub, Mrs. Maie Douglas, Director (*active*).

NOVA SCOTIA

HALIFAX:

Provincial Museum (*non-member*):

Piers, Harry, Curator (*active*).

OHIO

CINCINNATI:

Cincinnati Museum (*sustaining*):

Gest, J. H., Director (*active*).

University of Cincinnati (*non-member*):

Fenneman, N. M., Professor of Geology (*active*).

CLEVELAND:

Cleveland Museum of Art (*sustaining*):

Gibson, Katherine, In charge Educational Work (*active*).

MacLean, J. Arthur, Curator (*active*).

Pool, Frank J., Assistant Curator and Registrar (*active*).

Ruggles, E. A., Assistant in charge of Sales Department (*active*).

Whiting, Frederic Allen, Director (*active*).

Whiting, Mrs. Frederic A., Assistant to Director (*active*).

COLUMBUS:

Ohio State Archeological and Historical Society (*non-member*):

Mills, William C., Curator and Librarian (*active*).

GREENVILLE:

Museum of Carnegie Library (*non-member*):
Katzenberger, George A., Curator (*active*).

OBERLIN:

Oberlin College, Zoological Museum (*non-member*):
Jones, Lynds, Curator (*active*).

SANDUSKY:

High School Museum (*non-member*):
Bliss, Chester I., Assistant Curator (*active*).

TOLEDO:

Toledo Museum of Art (*sustaining*):
Stevens, George W., Director (*active*).

ONTARIO

OTTAWA:

Geological Survey of Canada (*sustaining*):
Ami, Henry M. (*active*).
Johnston, R. A. A., Mineralogist and Curator (*active*).
Smith, Harlan I., Archeologist (*active*).

OREGON

PORTLAND:

Portland Art Association (*non-member*):
Crocker, Anna B., Curator (*active*).

PENNSYLVANIA

ARDMORE:

Unattached:
Townsend, Louis H., Osteologist (*active*).

ERIE:

Erie Public Museum (*non-member*):
Austin, Thomas L., Curator (*active*).

HARRISBURG:

Pennsylvania State Museum (*sustaining*):
Rothrock, Boyd P., Curator (*active*).
Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker (*active*).

PHILADELPHIA:

Academy of Natural Sciences of Philadelphia (*sustaining*):
Stone, Witmer, Curator (*active*).
Museum of the Grand Lodge of F. and A. M. of Pennsylvania (*non-member*):
Sachse, Julius F., Curator and Librarian (*active*).
Pennsylvania Museum and School of Industrial Art (*sustaining*).
The Philadelphia Museums (*sustaining*):
Connor, Thomas J., Assistant (*associate*).
Fisher, William L., Assistant Curator (*active*).
Goll, George P., Curator (*associate*).

Schiele, Rudolph M., Assistant (*associate*).

Schoff, Wilfred H., Secretary and Assistant Treasurer (*active*).

Toothaker, Charles R., Curator (*active*).

Wilson, W. P., Director (*active*).

University of Pennsylvania, University Museum (*sustaining*):

Gordon, G. B., Director (*active*).

Houston, S. F., Trustee (*active*).

Wagner Free Institute of Science (*non-member*):

Rothermel, John G., Director (*active*).

The Wistar Institute of Anatomy (*non-member*):

Greenman, Milton J., Director (*active*).

Perine, Clara N., Assistant to Director (*active*).

Unattached:

Trask, John E. D. (*active*).

PITTSBURGH:

Carnegie Institute, Department of Fine Arts (*non-member*):

Bakewell, Euphemia, Docent (*active*).

Beatty, John W., Director (*active*).

Redd, May, Assistant in Educational Work (*active*).

Carnegie Institute, Department of the Museum (*sustaining*):

Agostini, Serafino, Preparator, Department of Paleontology (*active*).

Atkinson, D. A., Custodian of Reptiles (*active*).

Coggeshall, Arthur S., Preparator-in-chief, Department of Paleontology (*associate*).

Coggeshall, Louis, Preparator, Department of Paleontology (*associate*).

Courtney, Mrs. Addison, Assistant (*associate*).

Eigenmann, Carl H., Curator of Ichthyology (*active*).

Holland, W. J., Director (*life*).

Hughes, D. C., Assistant, Section of Archeology and Ethnology (*active*).

Jennings, Otto E., Curator of Botany (*active*).

Kahl, Paul Hugo Isidor, Custodian, Section of Entomology (*active*).

Link, G. A., Jr., Assistant Preparator, Taxidermic Laboratory (*active*).

Ortmann, Arnold E., Curator of Invertebrate Zoology (*active*).

Peterson, Olaf August, Field Collector and Preparator of Mammals and Birds (*active*).

Prentice, Sydney, Artist and Illustrator (*active*).

Santens, Remi H., Chief Preparator, Taxidermic Laboratory (*active*).

Stewart, Douglas, Assistant to Director (*active*).

READING:

Reading Public Museum (*non-member*):

Mengel, Levi W., Director (*active*).

WARREN:

Randall Museum, Warren Academy of Sciences (*sustaining*).

RHODE ISLAND

PROVIDENCE:

Park Museum (*sustaining*):

Gaudette, Marie E., Assistant to Curator (*active*).

Madison, H. L., Curator (*active*).

Magoon, Eva W., Assistant to the Curator (*active*).

Rhode Island School of Design (*non-member*).

Rowe, Louis Earle, Director (*active*).

Unattached:

Rowe, Mrs. Margaret T. Jackson (*active*).

SASKATCHEWAN

REGINA:

Provincial Museum, Department of Agriculture (*sustaining*)

SOUTH CAROLINA

CHARLESTON:

The Charleston Museum (*sustaining*):

Bragg, Laura M., Curator of Books and Public Instruction (*active*).

Gadsden, Philip H., President (*active*).

Kollock, Charles W., Secretary (*active*).

Rea, Paul M., Director (*active*).

Sharpe, Jesse, Treasurer (*active*).

Stoney, Samuel G., Trustee (*active*).

Weeks, Laura L., Secretary to the Director and Assistant Treasurer (*active*).

UTAH

SALT LAKE CITY:

Deseret Museum (*sustaining*):

Talmage, James E., Director (*life*).

VERMONT

ST. JOHNSBURY:

The Fairbanks Museum of Natural Science (*sustaining*):

Wilcox, Alice W., Director (*active*).

WALES

CARDIFF:

National Museum of Wales (*non-member*):

Hoyle, William Evans, Director (*active*).

WASHINGTON

SEATTLE:

University of Washington, State Museum (*non-member*):

Albrecht, Clarence J., Director of Vertebrate Exhibits (*active*).

Hall, F. S., Curator (*active*).

WISCONSIN

MADISON:

State Historical Museum of Wisconsin (*non-member*):

Brown, Charles E., Chief (*active*).

MILWAUKEE:

Public Museum of the City of Milwaukee (*sustaining*):

Barrett, S. A., Curator of Anthropology (*active*).

Brah, Bernard H., Assistant, Department of Anthropology (*active*).

Clowes, Herbert, Landscape Modeler (*life*).

Peaslee, Leon D., Curator of Education (*active*).

Plambeck, R., Photographer (*active*).

Pope, T. E. B., Curator of Invertebrate Zoology (*active*).

Shroobree, George, Chief Taxidermist (*active*).

Ward, Henry L., Director (*active*).

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